

PERFORMANCE REPORT

Natural Resources Canada

For the period ending
March 31, 2009

The Honourable Lisa Raitt, P.C., M.P.
Minister of Natural Resources



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Minister's Message

It is my pleasure to present the Departmental Performance Report for Natural Resources Canada (NRCan) for the period ending March 31, 2009.

During the reporting period, the global economic downturn affected all sectors of the Canadian economy, including its natural resource sectors. The prevailing consensus, however, is that Canada's commodities and energy resources will be central to the country's economic recovery and global competitiveness. The question is not "whether" but "when".

Building on successes, the Government of Canada's Economic Action Plan is assisting Canadians in weathering the immediate storm while at the same time bolstering the country's longer-term strength and competitiveness. Commenting on this strategy, the International Monetary Fund has registered its support for the Government's "large, timely, and well-targeted fiscal stimulus in Budget 2009."

NRCan's achievements are playing a leading role in advancing the Government's Economic Action Plan. The department's aim is to reinforce Canada's conditions for economic success, sound environmental leadership and security.

The department has achieved substantial progress in the delivery of its priorities. For example, NRCan is providing substantial leadership in addressing climate change and air quality through science, technology and adaptation. Its ecoENERGY initiatives are helping Canadians become more efficient consumers of energy in their homes, businesses and vehicles.

Another departmental priority is to enhance Canada's forest sector competitiveness. The department has worked closely with the forest industry and related stakeholders to foster new opportunities and innovation in the forest sector. It has helped expand offshore market opportunities and promote Canada's forest products through the

Minister's Message

Canada Wood Export Program and other initiatives. Closer to home, it is helping to diversify market opportunities by promoting the use of wood in the North American non-residential sector. The Government of Canada's Community Adjustment Fund is providing \$1 billion over two years to address the short-term economic needs of Canadian communities affected by the global recession.

Greater opportunities for social and economic development are emerging in the North. Through its mapping and geomatics activities, NRCan is contributing to northern sustainability and supporting Canada's Arctic sovereignty by providing information for a successful submission under the United Nations Convention on the Law of the Sea.

NRCan is also helping to improve Canada's regulatory system, in particular, as it pertains to major natural resources projects. Only a year after its introduction, the Major Projects Management Office is managing federal

regulatory requirements for 41 natural resources projects, representing more than \$100 billion in potential new capital investment.

By pursuing these and many other initiatives, NRCan is demonstrating its commitment to delivering results on issues that are of great importance to Canadians. Increasing the competitiveness of Canada's industry, making advances in innovation, tackling climate change and developing science and technology means working closely with the provinces and others with the goal of ensuring a prosperous, sustainable and secure resource future for Canadians.

The Honourable Lisa Raitt, P.C., M.P.
Minister of Natural Resources



Our Vision
Improving the quality of
life of Canadians by
creating a sustainable
resource
advantage

Our Mission
To be a champion
of sustainable
development; a world-
class centre of
knowledge on natural
resources; and a leader
in policy and
science

Raison d'être

NRCan's vision is to improve the quality of life of Canadians by creating a sustainable resource advantage. The department works to improve the competitiveness of Canada's natural resource sectors, which provide jobs and income for Canadian families across the country. It strives to ensure that resource development takes place sustainably and advances Canada's leadership on the environment. As a science-based department, NRCan also supports some of the most basic safety and security obligations a country has to its citizens through its knowledge and expertise on Canada's vast and diverse landmass.

Responsibilities

The Minister of NRCan is responsible for, or has responsibilities under more than 30 Acts of Parliament. The core powers, duties and functions are set forth in the *Department of Natural Resources Act*, the *Resources and Technical Surveys Act*, and the *Forestry Act*. The remaining Acts set out the terms for the management of Crown lands and of Canada's natural resource policies, including energy

and nuclear policy. In carrying out these responsibilities, NRCan works closely with other federal departments with resource-related responsibilities and supports the federal role in regional development and Aboriginal affairs in matters related to the resource sectors. NRCan also works in areas of shared responsibility with the provinces.

The department strives to promote economic competitiveness, improve environmental responsibility, and strengthen safety and security. By working towards these strategic outcomes, NRCan is helping to create a future where Canada's resources are produced and used in innovative and environmentally responsible ways, and where value is maximized at every stage of development. It is a future where more high-quality jobs are created and kept at home, and the idea of being a clean resource power is turned into reality sooner. This is about ensuring Canada is a place where economic competitiveness includes leadership on the environment.

In 2008-09, NRCan pursued an integrated approach towards achieving these goals. Its unique strengths in science and technology

Overview

were used to help the Government meet the increasing demand for evidence-based public policy. NRCan sought to implement its priorities and find solutions as a way of maximizing the benefits from all of Canada's assets – the natural resource base, people and ideas, and systems (e.g., regulations, infrastructure). More specifically, the department focused its efforts on five priority areas:

- addressing climate change and air quality through science technology, and adaptation.
- enhancing forest sector competitiveness by investing in innovation and market diversification.
- supporting Canada's Arctic sovereignty through geoscience and mapping activities.
- improving regulatory performance for major natural resource projects.
- advancing Canada's resource interests and sustainability efforts in the Americas and globally.

The department implemented these priorities during a year of significant change. Canada's economic context underwent a dramatic transformation – moving from an extended period of resource-driven growth into a major downturn and recession. As these circumstances began to impact the natural resource sectors and the livelihood of Canadians, NRCan played its part in contributing to the government's response.

Operating Context

The first half of 2008 was a continuation of a period of sustained economic growth and prosperity for Canadians. Canada's economy continued to benefit from high commodity

prices and the resulting increase in demand for labour and capital investment due in part to an expanding energy sector and healthy mining industry.

In late 2008, Canada's economy began to deteriorate as a result of the global financial crisis and the ensuing recession. As with other major economies, Canada entered a phase of negative growth characterized by a drop in exports, postponed investments and job layoffs across the country.

These changing economic conditions had serious consequences for the natural resource sectors. Throughout 2008-09, Canada's forest industry continued to restructure as it worked to address increased global competition, old capital stock and high costs of production. The global recession, and in particular the collapse of the U.S. housing markets, further hurt demand, contributing to more mill closures and a new wave of job losses within the sector.

Commodity prices began to fall substantially as a result of slower economic growth. Price weakness in most minerals and metals resulted in reduced expenditures in exploration, lowered output, the deferral of capital investment as well as site closures. The demand for manufactured goods comprised of minerals and metals also decreased significantly.

The strong Canadian energy industry was not immune to the economic slowdown. Due to lower global demand and price volatility, the oil and gas industry postponed several major projects. These pressures came at a time when the industry was facing increasing challenges related to the renewal and expansion of

infrastructure, as well as the need for improved environmental performance. Greenhouse gas emissions, climate change, and water use remain significant challenges.

This dramatic about-face only sharpened the need for NRCan to work to improve

the competitiveness and environmental leadership of Canada's natural resource sectors. It necessitated quick reaction on the part of NRCan in contributing to Canada's Economic Action Plan and a redoubling of efforts to deliver on departmental priorities.

Strategic Outcomes and Program Activity Architecture (2008-09)

NRCan manages its program delivery through three strategic outcomes which have seven program activities. The program activities are divided into smaller groups of sub-activities and sub-sub-activities that are designed to achieve the expected results that collectively contribute to the realization of strategic outcomes.

The Program Activity Architecture is complemented by a dynamic performance measurement framework that provides Canadians with an evidence-based set of qualitative and quantitative performance indicators aimed at assessing the department's progress in achieving its strategic outcomes.

Overview

Strategic Outcome #1

Natural resource sectors are internationally competitive, economically productive, and contribute to the social well-being of Canadians

PA 1.1 Economic Opportunities for Natural Resources

- 1.1.1 Minerals and Metals Markets, Investment, Innovation and Productivity
- 1.1.2 Economic Market Value of Canada's Forests
- 1.1.3 Canada's Forest Products in Global Markets
- 1.1.4 Innovation from Forest to Market
- 1.1.5 Geoscience Stimulates Exploration for Energy and Minerals*
- 1.1.6 Domestic and International Energy Policy
- 1.1.7 Petroleum Resources Policy and Regulations
- 1.1.8 Statutory Programs - Atlantic Offshore
- 1.1.9 Electricity and Renewable Resources Policy

PA 1.2 Natural Resource-based Communities

- 1.2.1 Minerals and Metals in Support of Communities
- 1.2.2 Forest-based Communities

Strategic Outcome #2

Canada is a world leader on environmental responsibility in the development and use of natural resources

PA 2.1 Clean Energy

- 2.1.1 Materials for Production and Transportation of Energy and Energy-Efficient Vehicles
- 2.1.2 Domestic and International Clean Energy Policy
- 2.1.3 Renewable Energy Programs*
- 2.1.4 Energy Science and Technology*
- 2.1.5 Energy Efficiency and Alternative Transportation Fuels*

PA 2.2 Ecosystem Risk Management

- 2.2.1 Strong Environmental Performance in Minerals and Metals
- 2.2.2 Canada's Forest Ecosystems
- 2.2.3 Geosciences Are Used to Understand Environmental Issues*
- 2.2.4 Radioactive Waste Management*

Strategic Outcome #3

Natural resources and landmass knowledge strengthens the safety and security of Canadians and contributes to the effective governance of Canada

PA 3.1 Adapting to a Changing Climate and Hazard Risk Management

- 3.1.1 Mining, Infrastructure and Explosives Safety and Security
- 3.1.2 Forest Disturbances
- 3.1.3 Science and Knowledge Are Used to Help Canadians Adapt to a Changing Climate*
- 3.1.4 The Risks of Natural and Man-Made Hazards are Reduced*

PA 3.2 Natural Resources and Landmass Knowledge for Canadians

- 3.2.1 Minerals and Metals Knowledge and Information
- 3.2.2 Forest Sector Innovation System
- 3.2.3 International Influence
- 3.2.4 Basic Infrastructure is Provided to Support the Governing of Canada*

PA 3.3 Geomatics Canada Revolving Fund**4.1 Internal Services**

- 4.1.1 Management and Oversight Services
- 4.1.2 Public Policy Services
- 4.1.3 Human Resources Management Services
- 4.1.4 Financial Management Services
- 4.1.5 Supply Chain Management Services
- 4.1.6 Facilities/Asset Management Services
- 4.1.7 Information Management Services
- 4.1.8 Information Technology Services
- 4.1.9 Legal Services
- 4.1.10 Public Affairs/Communication Services
- 4.1.11 Evaluation Services
- 4.1.12 Internal Audit Services
- 4.1.13 Other Support Delivery Services

* Sub-Sub Activities not shown

PA/Program Activity

Contribution of Priorities to Strategic Outcomes

NRCan identified five priorities that were critical to the realization of its strategic outcomes (SO) and expected results over the reporting period. These priorities shaped our integrated effort in the development of our policies, pursuit of our science and

technology initiatives, and delivery of our programs towards the strengthening of the three key assets of Canada's sustainable resource advantage: the resource base, people and ideas, and systems.

Operational Priorities	Type*	Status	Linkages to Strategic Outcomes
1. Addressing climate change and air quality through science, technology and adaptation - Strengthen the sustainability of Canadian energy production and consumption, and provide the knowledge and the tools to better understand and adapt to a changing climate.	Previously committed	Met	SO 2 & 3
2. Enhancing Canada's forest sector competitiveness - Support sustainable and transformative change of Canada's forest sector to improve the long-term economic competitiveness and sustainable management of Canada's forests.	Previously committed	Mostly met	SO 1, 2 & 3
3. Supporting Canada's Arctic sovereignty through geoscience and mapping activities - Support the evolution of strong and dynamic northern regions.	Ongoing	Met	SO 3
4. Improving regulatory performance for major natural resource projects - Ensure that Canada's sustainable resource advantage is enhanced by a stable, timely, well-coordinated and evidence-based regulatory process.	Previously committed	Mostly met	SO 1, 2 & 3
5. Advancing Canada's resource interests and sustainability efforts in the Americas and globally - Leverage Canada's sustainable resource advantage for domestic and international economic growth.	Ongoing	Mostly met	SO 1, 2 & 3

* An ongoing priority has no end date; a previously committed priority has an estimated end date and was committed to in prior budgets or main estimates documents.

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Management Priorities

Over the past year, NRCan continued to work towards becoming a more integrated, knowledge-based and results-oriented organization by advancing a number of management priorities. The first priority was the continued implementation of the departmental strategic framework which provides a foundation for the department to work together in a more collective and integrated manner. To that end, the department developed a science and technology strategy. It also created horizontal task teams that brought together expertise from across the department to conduct research and develop policy in five areas of primary interest: carbon capture and storage; international strategy; water; renewable resources/bio-energy; and impacts and adaptation to climate change.

Knowledge management and collaborative technologies play a large role in NRCan becoming a world-class centre of integrated knowledge and expertise. These initiatives are key to the implementation of the strategic framework and to the integration of science and policy through enabling evidence-based policy making. As one of the federal government leaders in the use of collaborative tools such as wikis, blogs and discussion forums at a departmental level, NRCan continues to be recognized for its innovative and collective leadership approach to knowledge management. Employees are embracing these tools not only to enable collaboration and integration of information across organizational and regional boundaries, but to support culture change and renewal in the workplace.

On the human resources (HR) side, NRCan continued to make progress by implementing the first-ever departmental HR plan,

based on the work of the department's Human Resources Renewal Committee. Accomplishments for 2008-09 include: hiring 113 post-secondary graduates into indeterminate positions; implementing a Term Employee Management Strategy to enable term employees to compete for indeterminate positions; creating a Core Competency Task Team to develop a set of core competencies linked to the talent management of all employees; and launching the Visible Minority Talent Management Program. These efforts improved the recruitment, development and advancement of NRCan's workforce, gained recognition as a best practice on HR planning within the federal family, and were highlighted in the Report of the Expert Panel on Integrated Business and HR Planning.

NRCan also worked towards addressing the significant real property challenges it faces. This required close attention as the average age of departmental assets is 45 years. A large majority of these assets have never received a full renovation treatment typically undertaken when a building exceeds 25 years of age. NRCan is addressing these challenges by: advancing a long-term capital plan; working through the departmental real property management framework; and coordinating with the Real Property Strategy for the National Capital Region.

Another key management priority was the creation of a formal administrative structure to better integrate and manage the coordination of the natural resources portfolio. To that end, the department established the Portfolio and Consultation Management Branch and created the Deputy Minister-chaired inter-portfolio Heads of Agency group that was tasked with discussing

key issues and areas of concern. These actions enhanced portfolio coordination within the department by fostering coherent policy implementation, good governance, effective communication, information sharing and accountability.

Risk Analysis

As the primary federal department responsible for natural resources, NRCan managed several significant risk factors that had the potential to impact priorities and on-going activities. These, and other risks pertaining to the delivery of NRCan's entire suite of activities, were closely monitored, examined and managed at the executive level over the course of the fiscal year.

Economic Downturn – Over the year, the primary risks for Canada, the natural resource sectors and the department were related to the global recession. Improving economic performance and advancing environmental responsibility was made more challenging as resource companies delayed major investments, suspended production and laid-off workers. These conditions have affected national economic indicators, as well as the livelihood of communities across the country.

To address the conditions created by the recession, NRCan acted by developing and obtaining the policy and spending authorities required to implement key measures within Canada's Economic Action Plan. The design and eventual implementation of the measures outlined in the Plan will work to position the country and the natural resource sectors for recovery. For example, in order to provide immediate economic stimulus, NRCan worked to design an expansion of the ecoENERGY Retrofits for Homes Program.

When fully implemented, this expanded program will stimulate consumer spending, improve energy efficiency as well as maintain and create jobs. In addition, the department worked collaboratively to design the parameters and received policy authority for the Community Adjustment Fund which will be delivered by the Regional Development Agencies, Industry Canada (IC) and Indian and Northern Affairs Canada (INAC). This fund will address the impacts and risks of the downturn by fostering economic development at the community level.

The department also worked to maintain key jobs and improve the long-term competitiveness of the natural resource sectors. To address the challenges facing the struggling forestry sector, NRCan developed multiple initiatives to encourage innovation, develop new and emerging technologies, and diversify markets for Canadian products. In order to help the Canadian energy sector address the risks related to environmental performance and competitiveness, NRCan developed a Clean Energy Fund. This fund will support greater use of technology that reduces greenhouse gas emissions from energy production (e.g., large-scale carbon capture and storage projects) and will enable research on emerging clean energy technologies. This is a critical area of work that will support green jobs, maintain market access in the U.S., and help to meet climate change objectives.

Management of the medical isotope supply chain – Atomic Energy of Canada Limited's (AECL) Chalk River Laboratories produce more than a third of all medical isotopes used worldwide, yet, the facility is aging rapidly and is in need of repair. At risk is the safe and secure supply of these isotopes. NRCan, Health Canada and AECL

Overview

have been collaborating closely to ensure the effective management of the isotope supply chain, now and for the future. This ongoing and priority effort has included: full implementation of the recommendations from the Talisman Report commissioned by the Canadian Nuclear Safety Commission and AECL; investing in isotope production-related studies at McMaster University (Hamilton, Ontario); funding a University of British Columbia TRIUMF workshop on accelerator-based photo fission; and the creation of an effective Protocol for Notification and Information Sharing Concerning Shortages of Medical Isotopes.

Timely delivery of Canada's submission to the United Nations Convention on the Law of the Sea (UNCLOS) – Due in large part to the difficult working conditions in the Arctic, there is an ongoing risk that the department would be unable to meet the timelines required by the UNCLOS. A continued diligent approach to the delineation of the continental shelf is required as data collection is expected to be completed by 2012 and case presentation to the United Nations is expected by 2013. A number of actions were taken in 2008-09 to be responsive to changed circumstances and opportunities and to improve monitoring and planning as a way of ensuring the success of this initiative. The Assistant Deputy Minister steering committee received weekly updates and met twice during the year and the

Federal Advisory Committee met three times during the same period. Efforts were also taken to enhance collaboration with Defence Research and Development Canada, the Department of Foreign Affairs and International Trade and the Department of Fisheries and Oceans to continue to advance the project. To date progress has been good and NRCan anticipates that the deadline will be successfully met.

Relocation of the CANMET Materials Technology Laboratory (MTL) – There were also risks related to the relocation of the CANMET-MTL to McMaster Innovation Park. Potential delays in the relocation could have resulted in cost overruns and slowdowns in the delivery of research programs. NRCan took a number of measures to ensure the timely transition of the laboratory including conducting general monitoring and assessments, as well as collaboration with both academia and industry. An extensive risk management plan was developed and risk management controls for the construction project include the development of detailed construction planning documents, tight project management as outlined in the Project Charter and the Project Management Procedures document, and strong coordination through a Project Management Working Group. Construction on the project started on December 8, 2008 and employees are expected to move to the new facilities in Hamilton in late 2010.

Summary of Performance

Financial Resources (\$M)

	Main Estimates	Total Authorities	Actual Spending
Program Spending	1,255.4	1,392.9	1,184.9
Statutory Programs - Atlantic Offshore	1,087.4	3,494.0	3,492.6
Total	2,342.8	4,886.9	4,677.5

Human Resources (Full-time Equivalents)

Planned	Actual	Difference
4,470	4,372	(98)

Strategic Outcome 1: Natural resource sectors are internationally competitive, economically productive, and contribute to the social well-being of Canadians

Performance Indicator:

- Contribution of natural resource sectors to the annual GDP (annual)

Target: Positive Trend

Performance:

- In 2008, Canada's natural resource sectors accounted for 12 percent of the gross domestic product and employed roughly 850,000 people. As well, they accounted for 27 percent of all private sector investment and over 50 percent of Canada's exports. As the global recession took hold in late 2008, Canada's natural resource sectors experienced production slowdowns, lay-offs and postponed investments. NRCan made a substantive contribution to Canada's Economic Action Plan, developing initiatives which will stimulate economic activity in these sectors and support resource-dependent communities in transition.

Program Activity <i>Main Estimates</i>	2007-08 Actual Spending	2008-09 (\$M)				<u>Alignment to GoC Outcomes (or statutory obligations)</u>
		Main Estimates	Planned Spending	Total Authorities	Actual Spending	
1.1 Economic opportunities for natural resources ¹	198.1	189.9	193.4	247.5	231.6	Strong Economic Growth
1.2 Natural resource-based communities	18.5	29.5	29.6	25.4	19.0	Strong Economic Growth

¹ Actual spending under activity 1.1 was higher than planned due to new approvals (\$22.8 million) received via the Supplementary Estimates including funding to provide the public geoscience information needed to encourage investment in natural resource development in northern Canada and funding to promote Canada's forestry sector internationally as a model for environmental innovation and sustainability. In addition, NRCan received the following supplemental allocations: \$3.8 million for collective bargaining; \$5.7 million carried over from the previous fiscal year; and \$2.2 million from TB Vote 23 (severance pay, maternity leave, etc). Partially offsetting these increases was funding reprofiled to future years (\$11.1 million) and miscellaneous surpluses including those resulting from the economic slowdown.

Overview

Strategic Outcome 2: Canada is a world leader on environmental responsibility in the development and use of natural resources

Performance Indicators:

- Extent of NRCan knowledge in natural resources management and land-use decisions (annual)
- Percent rate of Canada's environmental performance compared to other countries (over five years)

Target: Positive Trend

Performance:

- Performance information shows that NRCan knowledge in natural resource management and land-use decisions is being used by other government departments and stakeholders more than ever, and that the demand for our knowledge is projected to rise steadily over the next decade.
- Canada continued to steadily reduce its greenhouse gas (GHG) emissions intensity decreasing 12.4 percent from 2000 to 2006 (kg of CO₂ / \$US using 2000 prices and exchange rates) while the average OECD country GHG emissions intensity decreased 10.2 percent during the same period (source: International Energy Agency (Organization for Economic Cooperation and Development - Carbon Dioxide Emissions from Fuel Combustion 2008 Statistics)).

Program Activity <i>Main Estimates</i>	2007-08 Actual Spending	2008-09 (\$M)				<u>Alignment to GoC Outcomes (or statutory obligations)</u>
		Main Estimates	Planned Spending	Total Authorities	Actual Spending	
2.1 Clean energy ²	319.9	559.6	562.0	611.5	536.6	A Clean and Healthy Environment
2.2 Ecosystem risk management ³	159.5	226.2	226.6	229.3	164.5	A Clean and Healthy Environment

² Actual spending under activity 2.1 was less than planned because \$55.4 million in spending was deferred to future years. Miscellaneous surpluses including those resulting from the economic slowdown were also a contributing factor to lower than expected spending. NRCan received new approvals through the Supplementary Estimates (\$32.5 million) including *funding to implement adaptation initiatives in support of Canada's Clean Air Agenda* and funding in support of Sustainable Development Technology Canada. NRCan also received the following supplemental allocations: \$5.8 million for collective bargaining; \$8.7 million carried over from the previous fiscal year; and \$3.4 million from TB Vote 23 (severance pay, maternity leave, etc.).

³ Actual spending under activity 2.2 was less than planned because \$57.4 million in spending was deferred to future years. Miscellaneous surpluses including those resulting from the economic slowdown were also a contributing factor to lower than planned spending. NRCan also received the following supplemental allocations during the fiscal year: \$5.2 million for collective bargaining; \$7.8 million carried over from the previous fiscal year; and \$3.1 million from TB Vote 23 (severance pay, maternity leave, etc.).

Strategic Outcome 3: Natural resources and landmass knowledge strengthens the safety and security of Canadians and contributes to the effective governance of Canada

Performance Indicators:

- Extent to which the Minister's obligations are met for the safety, security and effective governance of Canada (annual)
- Rate in uptake of NRCan's information by users (annual)

Target: Positive Trend

Performance:

- Canada's leadership demonstrates a strong commitment to ensure the safety and security for all Canadians. Evidence shows that geoscience knowledge and tools were an important source of information for stakeholders, which, in turn, enabled advances in the area of climate change impacts and adaptation, mining infrastructure and Canada's sovereignty.
- Environmental challenges continue to be of concern for all Canadians. There was an increase in the uptake of NRCan-produced landmass knowledge by natural resource stakeholders to mitigate and adapt to natural and man-made hazards.

Program Activity <i>Main Estimates</i>	2007-08 Actual Spending	2008-09 (\$M)				<u>Alignment to GoC Outcomes (or statutory obligations)</u>
		Main Estimates	Planned Spending	Total Authorities	Actual Spending	
3.1 Adapting to a changing climate and hazard risk management	117.5	111.6	111.9	118.1	102.6	An Innovative and Knowledge-based Economy
3.2 Natural resources and landmass knowledge for Canadians	136.4	138.6	139.1	152.5	129.6	An Innovative and Knowledge-based Economy
3.3 Geomatics Canada Revolving Fund	3.0	1.9 (1.9)	1.9 (1.9)	8.6	1.0	An Innovative and Knowledge-based Economy
Sub-Total	952.9	1,255.4	1,262.6	1,392.9	1,184.9	
Statutory Programs						
1.1 Economic Opportunities for natural resources ⁴	2,388.2	1,087.4	1,087.4	3,494.0	3,492.6	Statutory Obligations
Total NRCan	3,341.1	2,342.8	2,350.0	4,886.9	4,677.5	

⁴ Actual spending includes the following statutory payments: Nova Scotia Offshore Revenue Account \$577.4 million; Newfoundland Offshore Petroleum Resource Revenue Fund \$2,351.0 million; and Newfoundland Fiscal Equalization Offset Payments \$556.7 million. Pursuant to the Atlantic Offshore Accords, NRCan receives the federal royalty revenues related to the offshore – which were greater than planned due to significant increases in oil and gas production levels – and subsequently makes payments to the provinces equivalent to the royalty revenues received.

Overview

Strategic Outcome 2: Canada is a world leader on environmental responsibility in the development and use of natural resources

Performance Indicators:

- Extent of NRCan knowledge in natural resources management and land-use decisions (annual)
- Percent rate of Canada's environmental performance compared to other countries (over five years)

Target: Positive Trend**Performance:**

- Performance information shows that NRCan knowledge in natural resource management and land-use decisions is being used by other government departments and stakeholders more than ever, and that the demand for our knowledge is projected to rise steadily over the next decade.
- Canada continued to steadily reduce its greenhouse gas (GHG) emissions intensity decreasing 12.4 percent from 2000 to 2006 (kg of CO₂ / \$US using 2000 prices and exchange rates) while the average OECD country GHG emissions intensity decreased 10.2 percent during the same period (source: International Energy Agency (Organization for Economic Cooperation and Development - Carbon Dioxide Emissions from Fuel Combustion 2008 Statistics)).

Program Activity <i>Main Estimates</i>	2007-08 Actual Spending	2008-09 (\$M)				<u>Alignment to GoC Outcomes (or statutory obligations)</u>
		Main Estimates	Planned Spending	Total Authorities	Actual Spending	
2.1 Clean energy ²	319.9	559.6	562.0	611.5	536.6	A Clean and Healthy Environment
2.2 Ecosystem risk management ³	159.5	226.2	226.6	229.3	164.5	A Clean and Healthy Environment

² Actual spending under activity 2.1 was less than planned because \$55.4 million in spending was deferred to future years. Miscellaneous surpluses including those resulting from the economic slowdown were also a contributing factor to lower than expected spending. NRCan received new approvals through the Supplementary Estimates (\$32.5 million) including *funding to implement adaptation initiatives in support of Canada's Clean Air Agenda* and funding in support of Sustainable Development Technology Canada. NRCan also received the following supplemental allocations: \$5.8 million for collective bargaining; \$8.7 million carried over from the previous fiscal year; and \$3.4 million from TB Vote 23 (severance pay, maternity leave, etc.).

³ Actual spending under activity 2.2 was less than planned because \$57.4 million in spending was deferred to future years. Miscellaneous surpluses including those resulting from the economic slowdown were also a contributing factor to lower than planned spending. NRCan also received the following supplemental allocations during the fiscal year: \$5.2 million for collective bargaining; \$7.8 million carried over from the previous fiscal year; and \$3.1 million from TB Vote 23 (severance pay, maternity leave, etc.).

Strategic Outcome 3: Natural resources and landmass knowledge strengthens the safety and security of Canadians and contributes to the effective governance of Canada

Performance Indicators:

- Extent to which the Minister's obligations are met for the safety, security and effective governance of Canada (annual)
- Rate in uptake of NRCan's information by users (annual)

Target: Positive Trend

Performance:

- Canada's leadership demonstrates a strong commitment to ensure the safety and security for all Canadians. Evidence shows that geoscience knowledge and tools were an important source of information for stakeholders, which, in turn, enabled advances in the area of climate change impacts and adaptation, mining infrastructure and Canada's sovereignty.
- Environmental challenges continue to be of concern for all Canadians. There was an increase in the uptake of NRCan-produced landmass knowledge by natural resource stakeholders to mitigate and adapt to natural and man-made hazards.

Program Activity <i>Main Estimates</i>	2007-08 Actual Spending	2008-09 (\$M)				<u>Alignment to GoC Outcomes (or statutory obligations)</u>
		Main Estimates	Planned Spending	Total Authorities	Actual Spending	
3.1 Adapting to a changing climate and hazard risk management	117.5	111.6	111.9	118.1	102.6	An Innovative and Knowledge-based Economy
3.2 Natural resources and landmass knowledge for Canadians	136.4	138.6	139.1	152.5	129.6	An Innovative and Knowledge-based Economy
3.3 Geomatics Canada Revolving Fund	3.0	1.9 (1.9)	1.9 (1.9)	8.6	1.0	An Innovative and Knowledge-based Economy
Sub-Total	952.9	1,255.4	1,262.6	1,392.9	1,184.9	
Statutory Programs						
1.1 Economic Opportunities for natural resources ⁴	2,388.2	1,087.4	1,087.4	3,494.0	3,492.6	Statutory Obligations
Total NRCan	3,341.1	2,342.8	2,350.0	4,886.9	4,677.5	

⁴ Actual spending includes the following statutory payments: Nova Scotia Offshore Revenue Account \$577.4 million; Newfoundland Offshore Petroleum Resource Revenue Fund \$2,351.0 million; and Newfoundland Fiscal Equalization Offset Payments \$556.7 million. Pursuant to the Atlantic Offshore Accords, NRCan receives the federal royalty revenues related to the offshore – which were greater than planned due to significant increases in oil and gas production levels – and subsequently makes payments to the provinces equivalent to the royalty revenues received.

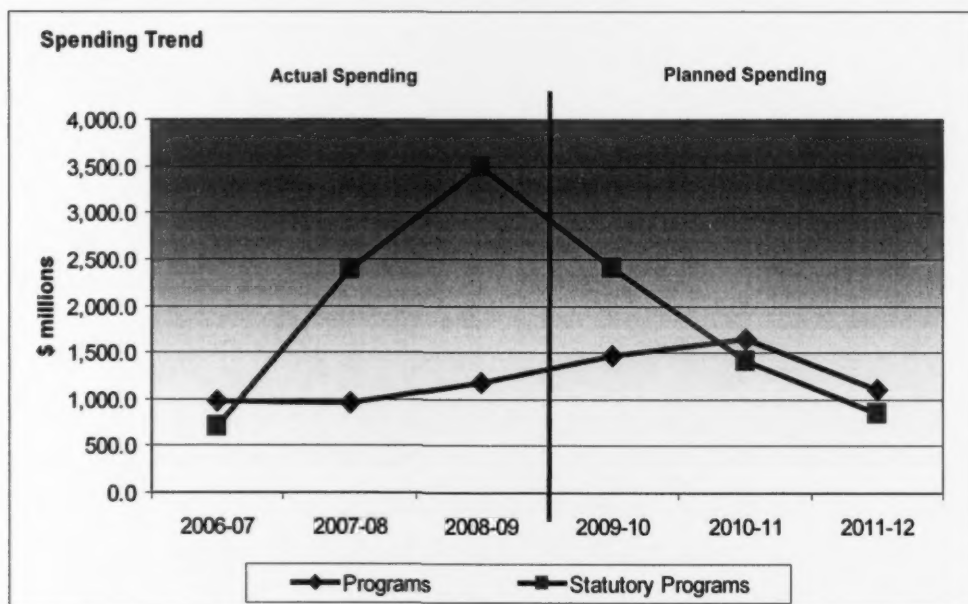
Overview

Expenditure Profile

NRCan's actual spending for 2008-09 was \$4,677.5 million. Of this amount, \$3,492.6 million was in support of the Atlantic Offshore Statutory Accords, and the remaining \$1,184.9 million was in support of departmental initiatives. The actual spending trend for NRCan departmental initiatives continued to increase by 20 percent or \$202.2 million from 2006-07, and 24 percent or \$232.0 million from 2007-08. Increased spending can be attributed to funding received for ecoENERGY for Biofuels (\$120 million), Adaptation Initiatives in Support of Canada's Clean Air Agenda (\$87 million), Implementing Geo-mapping for Energy and Minerals (\$12 million), the Leadership for Environmental Advantage in Forestry (\$5 million) and funding for various other initiatives. These increases are offset by reductions in other initiatives.

The spending trend for the Atlantic Offshore Statutory Accords has increased dramatically since 2006-07 due to significant increases in oil prices and production. There has been an increase of \$2,789.6 million (396 percent) from 2006-07, and \$1,104.4 million (46 percent) 2007-08. These expenditures were almost entirely offset by oil and gas royalty revenues. Pursuant to the Atlantic Offshore Accords, NRCan receives the federal royalty revenues related to the offshore and subsequently makes payments to the provinces equivalent to the royalty revenues received.

The graph below shows the department and the Atlantic Offshore Statutory Accord spending over a six-year period (three-year actual spending and three-year planned spending).



Planned spending of \$1,467 million in 2009-10 represents an increase of \$282 million from 2008-09. This increase is attributed to the ecoENERGY for Biofuels initiative and Budget 2009 announcements for ecoENERGY Retrofit Program, and Forestry Market Diversification and Innovation. The planned spending increases for fiscal year 2010-11 are attributed to the Clean Energy Agenda, the ecoENERGY for Biofuels initiatives, the Sustainable Development Technology Canada initiatives,

and Budget 2009 announcements for the ecoENERGY Retrofit Program, and Forestry Market Diversification and Innovation. The decreased planned spending in 2011-12 is the result of sunseting and reduced funding for initiatives including Clear Air Regulatory Agenda, Clean Energy Agenda, Nuclear Legacy Liabilities and ecoENERGY for Biofuels. Planned spending for the Atlantic Offshore Statutory Accords was forecasted to return to near 2006-07 levels; however, this is dependent on oil pricing and production.

Overview

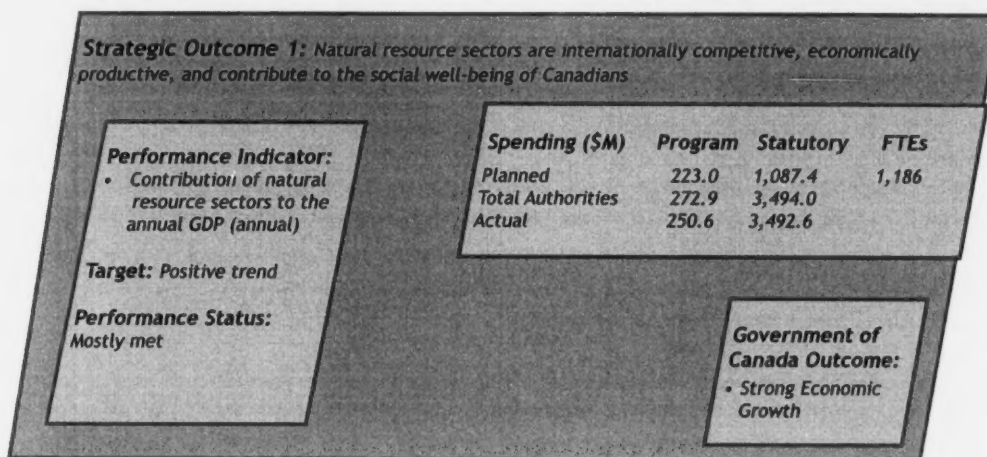
Voted and Statutory Items (\$M)

Voted and Statutory Items	Truncated Vote or Statutory Wording	Actual Spending 2006-07	Actual Spending 2007-08	Main Estimates 2008-09	Actual Spending 2008-09
1	Operating expenditures	643.9 ⁵	678.6	762.8	719.2 ⁶
5	Grants and Contributions	273.8	211.4	437.9	382.0 ⁷
(S)	Minister of Natural Resources - Salary and Motor Car Allowance	0.1	0.1	0.1	0.1
(S)	Contributions to Employee Benefit Plans	56.8	57.9	54.6	58.3
(S)	Infrastructure costs relating to the exploration, development, production or transportation of oil and gas in the offshore area of Nova Scotia	0.0	0.6	0.5	0.6
(S)	Canada-Newfoundland Offshore Petroleum Board	2.0	2.2	6.0	4.1
(S)	Canada-Nova Scotia Offshore Petroleum Board	2.4	2.6	2.9	2.8
(S)	Payments to the Nova Scotia Offshore Revenue Account	275.4	493.2	407.3	577.4 ⁸
(S)	Payments to the Newfoundland Offshore Petroleum Resource Revenue Fund	313.4	1,701.0	670.7	2,351.0 ⁹
(S)	Grant to the Canada Foundation for Sustainable Development	0.0	1.6	0.0	19.0 ¹⁰
(S)	Newfoundland Fiscal Equalization Offset Payments	109.8	188.6	0.0	556.7 ¹¹
(S)	Grants in Support of Energy Costs Assistance Measures	7.1	0.0	0.0	0.0
(S)	Spending of proceeds from the disposal of Crown Assets	0.2	0.3	0.0	0.4
(S)	Refund of amounts credited to revenues in previous years	1.3	0.0	0.0	0.0
(S)	Grant to the University of Calgary, Institute for Sustainable Energy, Environment, and Economy	0.0	0.0	0.0	5.0 ¹²
(S)	Geomatics Canada Revolving Fund - Operational expenditures - Respendable revenue	(0.5)	3.0	0.0	0.9
Total		1,685.7	3,341.1	2,342.8	4,677.5

- ⁵ Vote 5 Capital from fiscal year 2006-07 is included in Vote 1 Operating Expenditures.
- ⁶ Under Vote 1, NRCan received additional approvals during the fiscal year through the Supplementary Estimates totalling \$26.5 million including funding to implement adaptation initiatives in support of Canada's Clean Air Agenda and funding to provide the public geoscience information needed to encourage investment in natural resource development in northern Canada. NRCan also received the following supplemental allocations during the fiscal year: \$20.0 million for collective bargaining; \$30.0 million carried over from the previous fiscal year; and \$11.8 million from TB Vote 23 (severance pay, maternity leave, etc.). Actual spending under Vote 1 was less than planned because \$89.2 million in spending was deferred to future years. Miscellaneous surpluses including those resulting from the economic slowdown were also a contributing factor to lower than planned spending.
- ⁷ Under Vote 5, NRCan received additional approvals during the fiscal year through the Supplementary Estimates totalling \$12.0 million including funding to promote Canada's forestry sector internationally as a model for environmental innovation and sustainability and funding to implement adaptation initiatives in support of Canada's Clean Air Agenda. Actual spending under Vote 5 was less than planned because \$66.9 million in spending was deferred to future years.
- ⁸ The original 2008-09 Main Estimates forecast was based on royalty forecasts from the province. The 2008-09 actual expenditures reflect an increase in payments to the province resulting from an increase in gas prices.
- ⁹ The original 2008-09 Main Estimates forecast was based on royalty forecasts from the province. These forecasts were significantly understated when compared to 2008-09 actual expenditures due to increases in both oil prices and production levels.
- ¹⁰ The statutory component of the Grant to the Canada Foundation for Sustainable Development, announced in 2007, was not reflected in the 2008-2009 Main Estimates and resulted in \$19.0 million of expenditures higher than planned spending.
- ¹¹ Regulations under the provisions of the *Fiscal Equalization Offset Payments in the Canada-Newfoundland Atlantic Accord Implementation Act* allow Newfoundland and Labrador to be compensated for losses to equalization payments due to increases in offshore oil and gas revenues. The province has an option of using the formula in accordance with the Act or can use the generic calculation under the equalization rules. If the latter is chosen, the Newfoundland Fiscal Equalization Offset payment is zero. The increase reflects the province's decision to use the Accord Act formula and the \$556.7 million represents the equalization offset payment for 2008-09. The equalization offset payment is calculated by Finance Canada and NRCan is notified in April.
- ¹² Appropriation for the \$5.0 million statutory grant to the University of Calgary Institute for Sustainable Energy, Environment, and Economy was provided via the *Budget Implementation Act 2008*, which occurred after the establishment of the 2008-09 Main Estimates.

Analysis of Program Activities by Strategic Outcome

Strategic Outcome 1



Performance Summary

Since 2002, the Canadian economy has experienced strong growth, in part due to historically high commodity prices and the strength of the natural resources industries.

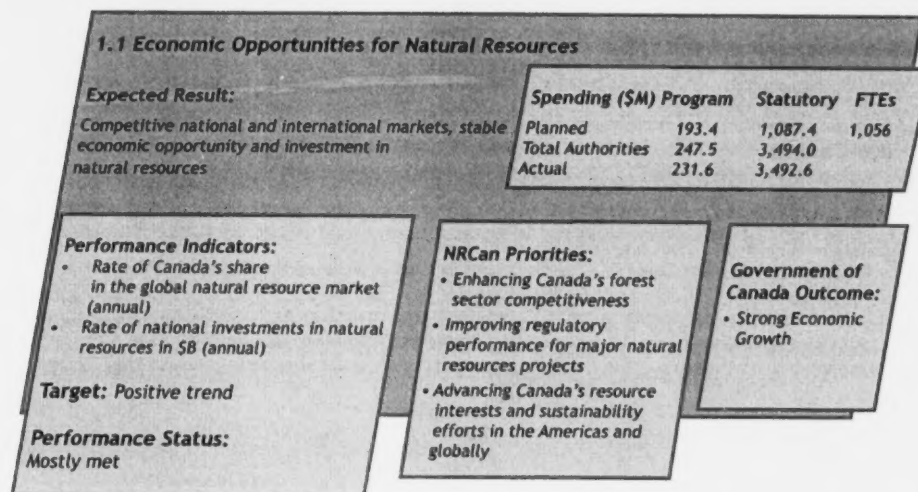
In 2008, these sectors generated 12 percent of gross domestic product (GDP) and employed roughly 850,000 Canadians. As well, they accounted for 27 percent of all private sector investment and over 50 percent of Canada's exports.

This boom came to a sudden halt in mid-2008 with a sharp correction in commodity prices due to the global financial crisis and economic downturn. In the Canadian context, the full impacts became evident in late fall 2008. Canada's natural resource

sectors were not immune to these events. Global demand for resources fell precipitously, investments in new production were postponed, mine and mill sites were closed and jobs were lost across the country.

Recognizing the extent of the economic downturn, the Government delivered a major stimulus budget at the end of January 2009. NRCan developed several important initiatives that will contribute to Canada's economic recovery and future economic competitiveness supporting communities that have been hardest-hit (e.g. resource-dependent towns). In short, the department has acted to implement both the 2008 and 2009 federal budgets in order to advance this strategic outcome.

Program Activity 1.1: Economic Opportunities for Natural Resources



Performance Analysis

In 2008, capital investments by Canada's natural resource sectors totalled \$94 billion, representing 27 percent of all private sector investment. Forest, mining and energy products continued to be extremely important to Canada's trade surplus, accounting for 53 percent of Canada's exports. As well, the natural resources sectors expended \$2 billion on research and development (R&D) – i.e., 11 percent of total private sector R&D.

This said, the Canadian forest sector continued to face historically high exchange rates, increasing foreign competition and a slumping US housing market. The global financial crisis further hurt the sector, contributing to a 13.8 percent contraction in economic activity in 2008. The mining and energy sectors faced difficulties in the second half of the year, as global demand slackened and commodity prices declined.

Due to this economic climate, exploration for minerals, metals and energy also dropped off. These sectors contracted in 2008 at a rate of 3.4 percent and 2.2 percent, respectively. Negative trends continued through the first quarter of 2009.

Notwithstanding the impacts of the economic downturn, the department mostly met its expected result under this program activity.

Program Activity Analysis

Minerals and metals, markets, investment, innovation and productivity (met):
Canadian mining sector and communities felt the impact of the global economic downturn (e.g., declining commodity prices, access to financing); however, Canada should be well-positioned to capitalize as markets rebound. NRCan worked collaboratively

Analysis of Program Activities by Strategic Outcome

through the Federal-Provincial-Territorial Mines Ministers network to assess the impacts of the economic crisis, share information recovery strategies and to identify priority areas of collaboration. Supporting a competitive investment climate, the Economic Action Plan extended the 15 percent Mineral Exploration Tax Credit until March 2010 and NRCan continued its comparative analysis work to ensure Canada stays well-positioned globally in terms of tax regimes. The department's Major Projects Management Office is also improving efficiency and performance with respect to regulation and environmental assessment, key to global competitiveness.

Internationally, NRCan was active in promoting a positive rules-based trade environment and in securing access to international markets (e.g., nickel) and resources. The department played a leadership role and supported the Department of Foreign Affairs and International Trade (DFAIT) in capacity-building activities in Africa and Latin America, and was a key player in the development of the Government of Canada's *Building the Canadian Advantage: Corporate Social Responsibility Strategy for the Canadian International Extractive Sector*, announced in March 2009. NRCan continued to take a leadership role in contributing to the productivity of the mining and metals sector through the promotion of innovation and investment in science and technology. To this end, NRCan led the establishment of the Canada Mining Innovation Council and continued to rejuvenate its world-class CANMET Materials Technology Laboratory as it relocates to McMaster Innovation Park in the heart of Canada's auto and manufacturing hub in 2010 (see Section I – Risk Analysis).

Market value, global markets and innovation in the forestry sector (mostly met): The Canadian forest industry continued to undergo a difficult period of restructuring, compounded more recently by one of the most serious cyclical downturns in the last 60 years. Over the last year, lack of access to credit and a substantive US subsidy for pulp producers have exacerbated the situation. NRCan continued to provide expert economic advice and analysis to ensure government programs and policies address forest sector needs. Through its Canadian Wood Fibre Centre and FPInnovations, the department continued to support the delivery of the Transformative Technologies Program which focuses on pre-competitive, non-proprietary research to address the development and adoption of emerging and breakthrough technologies which are key building blocks for the future of the sector.

The Government of Canada recognizes that the forest industry needs to transform and that the current restructuring will lead to a different industry, one that goes beyond the traditional suite of products. Through research, NRCan is improving understanding of the real economic potential of these new products including forest bioenergy and other bioproducts. Moreover, the department expanded offshore market opportunities and promoted the environmental credentials of Canada's forest products through programs such as the Canada Wood Export Program. The competitiveness of the secondary manufacturing wood industry was also improved by delivering a national research and technology transfer program under the Value to Wood Program, and diversified domestic market opportunities by promoting the use of wood in the North American non-residential sector through

the North American Wood First Initiative. NRCan also continued to position Canada as an environmentally responsible forestry nation through the International Forestry Partnerships Program.

As a result of the dramatic turn of events in the global economy and given the many other factors that affect the expected result, some short-term declines in offshore exports have been encountered. However, long-term economic analysis suggests that global markets and economies will rebound and NRCan's long-term performance targets will be fully met.

Geoscience stimulates exploration for energy and minerals (met): Energy and mineral resources have been the backbone of Canadian economic development, but reserves are declining. Economic studies have shown that each \$1 million of geoscience leads to \$5 million of industry exploration and \$125 million of mineral resources. Canada's competitors – particularly the U.S., Australia and Mexico – are increasing geoscience expenditures to add to their reserves. Through the Geoscience for Energy and Minerals Program (GEM), NRCan recently increased geoscience spending in the North but this only partially addresses the reserves gap with competing nations.

The results of NRCan's geoscience work have led to increased investment in mineral and energy exploration by others. For example, targeted geoscience work led to: private stakeholder expenditures in excess of five times the program investment in the Flin Flon mining camp; the first offshore Labrador Sea land sale since 1983 took place in summer 2008 which raised the total commitment of \$186 million of which \$130 million was bid by Husky Oil;

and a successful bid by BP Canada Energy of \$1.2 billion for license blocks in the Beaufort Sea in June 2008. This is the largest exploration commitment in the history of the Canadian petroleum industry.

Domestic and international energy policy (mostly met): While not immune to the impacts of the economic slowdown, energy remained a major pillar of the Canadian economy in 2008-09. The energy sector accounted for 6.8 percent of Canada's GDP in 2008 and provided over 277,000 well-paying skilled jobs. Canada's energy exports grew to \$128.4 billion (representing 26.6 percent of total merchandise exports, with a balance of energy trade of +\$75.5 billion). NRCan provided analysis and advice to support the sustainable development of Canada's energy sector, promoting policies to keep the sector internationally competitive and economically productive. Energy plays an important role in Canada's international relations and NRCan represented Canada's energy interests through multilateral fora such as the G8 and International Energy Agency. The department also helped strengthen Canada's key energy relationship with the U.S., particularly through the Canada-U.S. Consultative Mechanism and the North American Energy Working Group. Canada strengthened its energy dialogues with Europe and China and has been increasingly engaged in India and the Americas. 2008 saw new emphasis placed on producer-consumer dialogue through the ministerial Jeddah and London Energy Meetings. NRCan also worked with provinces, territories, and stakeholders toward greater policy alignment and cooperation. At the 2008 Council of Energy Ministers meeting in Saskatoon, federal, provincial and territorial ministers

Analysis of Program Activities by Strategic Outcome

discussed the challenges and opportunities of global energy markets, energy efficiency, energy technology and adaptation to climate change. In addition, NRCan authored the *Economic Scan of Canada's Energy Sector* – a major study in 2008 by the multi-stakeholder Energy Sector Sustainability Table.

Petroleum resources policy and regulations (met): NRCan aims to ensure a fair, efficient and globally competitive oil, natural gas and petroleum products. To that end, the department worked on providing timely, reliable, and relevant regulatory advice and information as well as effectively managing regulatory projects and responsibilities. Key initiatives included advancing the Mackenzie Gas Project; moving several pipeline certificates through the process (e.g., TransCanada Alberta System, Redwillow, and SouthPeace); completing the proposed *Drilling and Production Regulations* under the Frontier and Offshore Regulatory Renewal Initiative; and the renewal of the Northern Pipeline Agency.

Electricity and renewable resources policy (mostly met): An adequate, reliable and secure electricity system with minimal environmental impacts is key to long-term economic prosperity. In this regard, NRCan plays an important role in fostering electric reliability in Canada. With counterparts in provincial, U.S., and Mexican governments as well as Canadian associations and industry, NRCan continued to support the implementation of a policy and regulatory framework of mandatory and enforceable reliability standards. The department co-chairs Trilateral Reliability Meetings with the U.S., Mexico, and provinces that act as a mechanism to facilitate North American coordination on reliability related standards, as well as other reliability related issues as

they arise. In order to coordinate and resolve Canadian reliability issues and concerns, NRCan also meets regularly with the Federal-Provincial-Territorial group, the North American Electric Reliability Corporation, and the Canadian Electricity Association. In addition, NRCan is working to address Canadian concerns and to facilitate further Canada-U.S. cooperation on the issue of electricity grid physical and cyber security.

Renewable energy will play an increasing role in Canada's electricity mix. The Government established an objective that 90 percent of electricity produced in Canada be non-emitting by 2020 and has targeted reducing Canada's GHG emissions by 20 percent from 2006 levels by 2020. NRCan has been assessing the role of renewable energy within that context as well as options, including the future of the ecoENERGY for Renewable Power Program, which by March 2009, had supported the deployment of 2700 megawatts of renewable power capacity. In addition, NRCan undertook analytical work toward the development of the proposed clean air regulatory framework and consulted stakeholders on an enabling policy framework for wind power in Canada.

Nuclear energy is a key element in attaining a robust electricity system. NRCan's objectives are to support the strict, science-based regulations of domestic and international nuclear activities while promoting international cooperation. To that end, NRCan, Health Canada and AECL have been working hard at ensuring the effective management of the isotope supply chain, now and for the future (see Section I – Risk Analysis). At Canada's request, the OECD's Nuclear Energy Agency hosted an international workshop on this topic involving experts in the public and private

sectors from 18 countries and international organizations. This workshop was highly successful in identifying key measures to be addressed as well as longer term security of supply issues. Also during 2008-09, the Minister approved the Nuclear Waste Management Organization's funding formula related to the long-term management of nuclear fuel waste.

A review of AECL was launched in November 2007 as part of the Government of Canada's due diligence and commitment to good governance and responsible management. Its purpose was to determine whether AECL's current structure best equips its employees, and ultimately the Canadian nuclear industry, to participate fully in the expanding global nuclear market. It studied several factors: the need to control costs, to maximize Canadian taxpayers' return on their investment and to optimize opportunities for the Canadian nuclear industry. The review engaged a wide range of stakeholders and involved external financial evaluation of the Corporation and market conditions, legal and policy analysis of restructuring, and careful study of the impacts of possible options on business prospects.

Benefits to Canadians

How Canada harnesses and uses its natural resources has a significant impact on economic competitiveness, the health of the environment and the overall quality of life of Canadians. The natural resource sectors have been an engine of economic growth and job creation for generations. By working with these sectors and other key stakeholders,

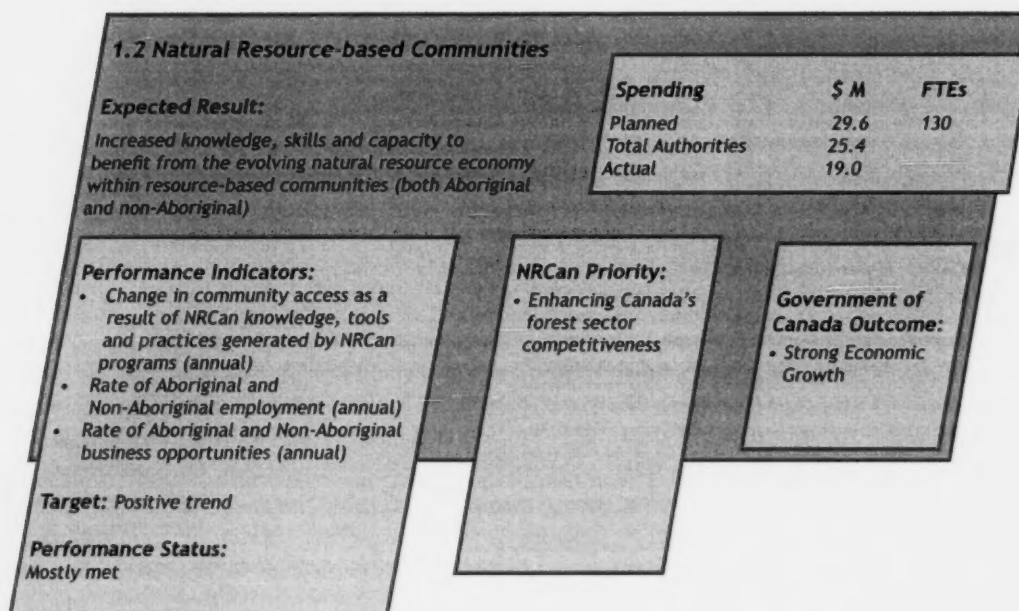
NRCan has made an important contribution to competitiveness and sustainability. The department also worked to create synergies among Canada's assets – i.e., knowledge of the natural resource base (GEM), innovation and expertise (e.g., FPInnovations), and key systems (e.g., regulation, policy, trade).

Lessons Learned and Corrective Actions

With the global downturn, economic stimulus became an important priority in fiscal year 2008-09. Yet, this changing context also reinforced the need for NRCan to continue its efforts to strengthen the long-term competitiveness of Canada's natural resource sectors through new measures and renewed efforts. As several successful forestry programs were due to sunset, actions were taken to secure funding through Canada's Economic Action Plan for their continuation and expansion. The renewed program funding (\$170 million) will further NRCan's support for market diversification and innovation efforts and contribute to the long-term competitiveness of Canada's forest sector. In addition, more analysis is planned for 2009-10 to better understand the real economic potential for bioenergy as well as new transformative technologies for the industry of the future. As well, recommendations from program evaluations with respect to improved performance measures will be fully implemented in 2009-10.

Analysis of Program Activities by Strategic Outcome

Program Activity 1.2: Natural Resource-based Communities



Performance Analysis

In recent years, access to a sufficiently large highly-skilled workforce has become a key element of success in the natural resources economy. The department's activities related to increasing knowledge, skills and capacity respond to this need, helping to ensure a strong foundation for economic growth.

Due to the economic slowdown, overall employment in the natural resource sectors decreased by 3.4 percent since 2007. Resource communities have been particularly affected by the recession through mill and mine closures and associated job losses. This said, employment statistics indicate that Aboriginal people accounted for 7.5 percent of Canada's mining workforce. As well, it is

important to note that resource-based jobs, which counted in the hundreds of thousands even during a period of recession, provided above-average salaries to Canadians working in these sectors.

Along with its partners, NRCan delivered programs that helped develop knowledge and strategies that will enable communities to adjust and capitalize on emerging opportunities. In addition to its existing programs, NRCan led in the design of the new Community Adjustment Fund, which will be delivered by the Regional Development Agencies, Industry Canada and INAC.

In summary, the department mostly met its expected result under this program activity.

Program Activity Analysis

Minerals and metals in support of communities (met): Communities potentially benefit from mining operations depending on their proximity to existing and potential mines. Mining operations provide employment and other socio-economic benefits to numerous communities including Aboriginal communities. In 2008-09, NRCan participated in the annual Federal-Provincial-Territorial Mines Ministers Conference which focused on skills and capacity shortages as a priority. The department also worked closely with the Mining Industry Human Resource Council and other partners to develop an HR guide for communities as an aid to help communities build their capacity and take advantage of employment and other opportunities in exploration and mining. In cooperation with NRCan partners, a completed Industry HR Guide for Aboriginal communities was developed and issued. Working with DFAIT, the Mining Information Kit for Aboriginal Communities was adapted for use in Peru, Mexico and Ecuador. A compendium of case studies and lessons learned related to Aboriginal engagement in mining was developed. In addition, NRCan worked with ministerial stakeholders on a feasibility study examining joint approaches to address skills and capacity issues faced by key resource sectors.

Finally, the department supported the economic viability of mining communities by developing mining, processing and environmental technologies that increases the availability of minerals and metals. In 2008-09, NRCan conducted research to

ensure the capability for safe exploitation of deep mineral deposits and developed a bioleaching process for low grade nickel deposits that will extend ore reserves in mining regions.

Forest-based communities (mostly met): Through its Forest Communities Program (FCP), (originally the Model Forest Program), the department supported 11 community-level stakeholder partnerships across Canada and helped link them at a national level through support for the Canadian Model Forest Network. In 2008-09, the FCP's first full year of operation, program recipients focused on building and strengthening local partnerships, thereby achieving increased participation and support from non-traditional forest sector partners, including municipalities, the energy sector and economic development agencies. Program recipients initiated more than 200 projects aimed at developing knowledge and strategies that will enable communities to adjust to forest sector transition and capitalize on emerging forest-based economic activities. In addition, multi-year national projects were launched to develop indicators for assessing the ability of forest-based communities to respond to changes in the forest sector, and to advance the implementation of pilot projects on valuation of ecological goods and services from forests.

The forest remains an important resource for the majority of Aboriginal communities located in Canada's forest regions. The First Nations Forestry Program (FNFP), jointly funded and administered by NRCan and INAC, supports capacity-building projects that assist First Nations to sustainably manage forest resources and to participate in forest-based economic activities, both

Analysis of Program Activities by Strategic Outcome

on and off reserve. In 2008-09, the FNEP supported more than 130 projects at the community level and helped facilitate development of regional-scale projects. The program published an update of the popular "Success Stories" and released the quarterly "E-News" with stories on Aboriginal forestry. NRCan also worked closely with INAC and other federal departments and agencies on the development of the federal Aboriginal Economic Development Framework to ensure alignment of activities with government priorities; this has resulted in a slight delay in the development of succession programming.

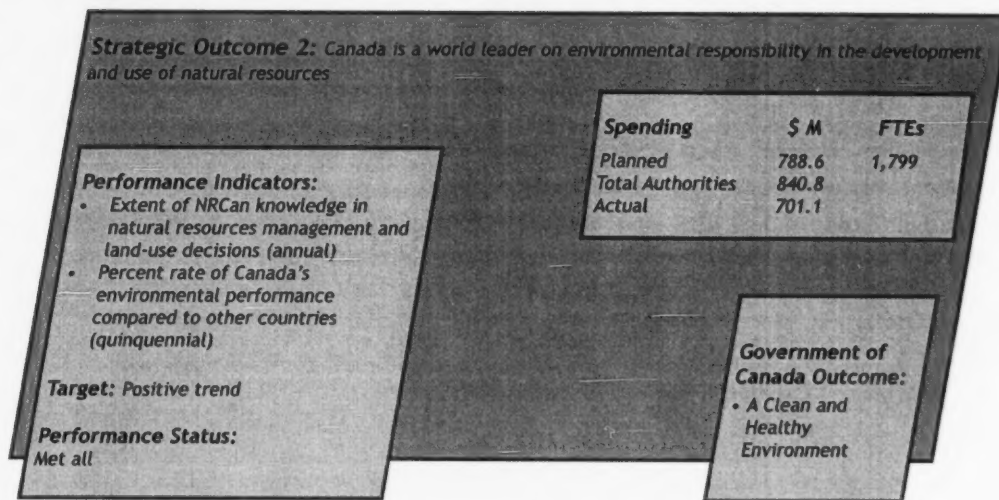
Benefits to Canadians

The natural resource sectors are among the largest employers in Canada, providing high-quality jobs for roughly 850,000 Canadians in urban and rural regions. They are also among the largest private sector employers of Canada's Aboriginal peoples. They create new business opportunities and are the economic foundation of hundreds of small and large communities across the country. NRCan worked with partners and stakeholders to stimulate economic development and support resource-based communities in transition.

Lessons Learned and Corrective Actions

As the effects of the recession became evident in resource-based communities, NRCan played a key role in the development of the \$1 billion Community Adjustment Fund announced in Canada's Economic Action Plan. This Fund, to be delivered by the Regional Development Agencies, IC and INAC, will mitigate the short-term impacts of restructuring in communities by helping to create employment opportunities, foster economic development, promote economic diversification and encourage science and technology initiatives. NRCan recognizes the need to integrate program activities with other departmental activities – especially within the S&T program – as well as to clarify expected results and strengthen performance measurement. To better deliver on this program activity, a new program framework is being developed to clarify the focus of the programs and the expected results, and to strengthen performance measurement.

Strategic Outcome 2



Performance Summary

Energy production in Canada continued to make significant contributions to the country's economy, despite the drop-off of commodity prices beginning in July 2008. However, the use and production of this critical resource are also the sources of the majority of air pollution and greenhouse gas (GHG) emissions in the country. Addressing climate change and air quality through science and technology and adaptation is therefore a priority for the department.

To further advance Canada's position as a clean energy producer, steps were taken to reduce the GHG emissions intensity of energy use and to increase energy efficiency in various sectors. The department took a leadership role in carbon capture and storage technology as well as other clean energy research development and demonstration projects through the \$1-billion Clean Energy Fund announced in Canada's Economic Action Plan. These actions helped ensure that

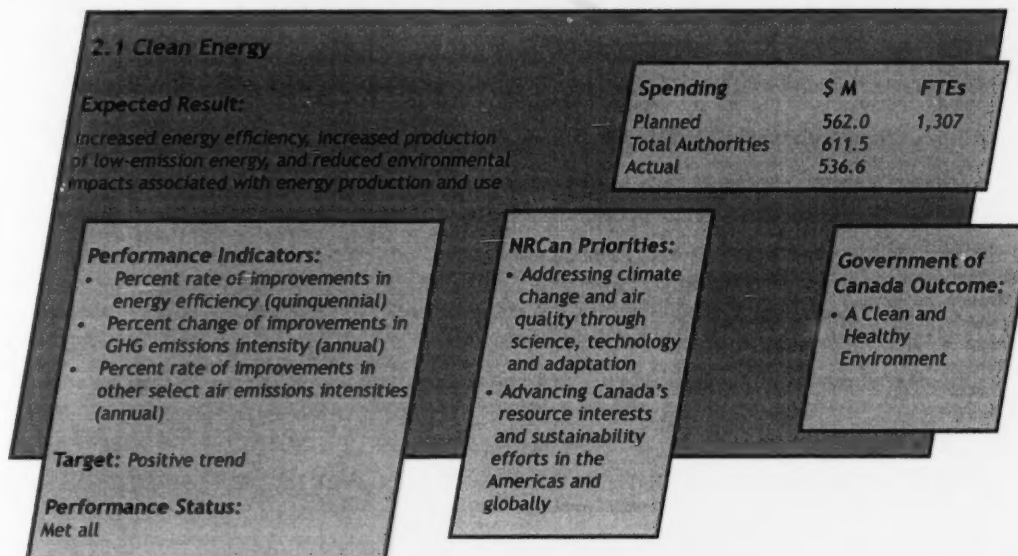
the Canadian energy resources portfolio is balanced and diversified, with great potential for further supply development.

When comparing Canada's environmental performance to other countries, data from the OECD International Energy Agency 2008 Statistics shows that Canada reduced its GHG emissions intensity by 12.4 percent, while the average OECD country GHG emissions intensity decreased by 10.2 percent over the same period, and this despite Canada's energy-intensive industrial structure.

With respect to natural resource management and land-use decisions, performance information shows that NRCan knowledge is being used by other government departments and stakeholders more than ever. For example, NRCan's responsible management of radioactive waste is even more critical given the growing interest in expanding nuclear energy in Canada. The demand is expected to rise steadily over the next decade.

Analysis of Program Activities by Strategic Outcome

Program Activity 2.1: Clean Energy



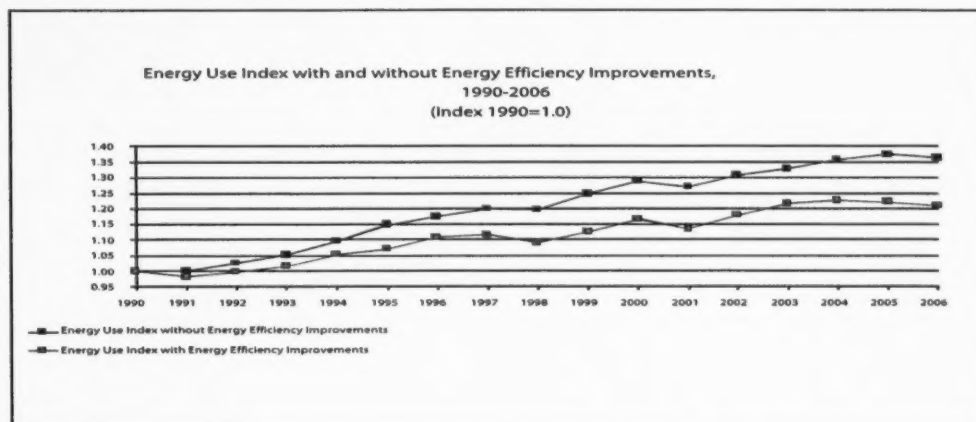
Performance Analysis

According to Environment Canada's 2007 Greenhouse Gas Inventory, Canada's GHG emissions intensity increased 1.3 percent from 2006. However, the longer-term trend seen from 1990 to 2006 was a 21.1 percent decrease in GHG emissions intensity. In addition, overall energy efficiency improved by an estimated 15.8 percent (National Energy Use Database). In 2008, 814 million litres of ethanol (1.9 percent of total gasoline sales) and approximately 85 million litres of biodiesel (0.3 percent of total diesel sales) were produced, giving Canadian energy consumers greater access to alternative forms of clean energy. The change in energy use between 1990 and 2006, with and without energy-efficiency improvements, demonstrates a positive trend in energy efficiency (see graph next page).

In summary, the department met its expected result under this program activity.

Program Activity Analysis

Materials for production and transportation of energy and energy-efficient vehicles (met): CANMET's Vehicle Structural Materials Program, NRCan and partners developed advanced materials, technologies and processes that improved energy efficiency and enabled clean energy systems through S&T. This research will enable the next generation of vehicles to be stronger and lighter and therefore contribute to the reduction of GHG emissions associated with the combustion of fossil fuels. Performance information indicates that NRCan continues



Source – National Energy Use Database

to attract clients for knowledge as evidenced by the number of universities and other organizations seeking contracts for access to this knowledge which has remained within 0.02 percent over the past two years.

In addition, the department continued research with respect to the GEN IV nuclear reactor program. Eight projects were started during the reporting period.

Domestic and international clean energy policy (mostly met): NRCan provides expert advice, analysis and leadership on key issues related to its mandate in support of Canada's efforts to reduce environmental impacts of energy production and use, including climate change. To that end, NRCan supported the development and implementation of clean energy policy and programs, climate change and air pollution regulatory policies, and energy technology deployment. NRCan also supported the Horizontal Management, Accountability, and Reporting Framework which provides performance and financial reporting on the Clean Air Agenda. In addition, the department worked closely with Environment Canada (EC) to provide

analysis and policy input for the development and articulation of Canada's positions and policies on international climate change, both inside and outside the United Nations Framework Convention on Climate Change. The long-term trend for GHG intensity is a decline of 21.1 percent since 1990 and NRCan is supporting the development of policies and programs designed to continue this trend. Although Canada's GHG intensity increased by 1.3 percent from 2006 to 2007, such year-over-year variations often reflect temporary phenomena, such as weather patterns and the management of electricity generation capacity (e.g. nuclear outages and low hydro levels can serve to increase the share of fossil fuel generation in a given year).

Renewable energy programs (exceeded): Since program inception in April 2007, the ecoENERGY for Renewable Power Program has registered 234 projects representing 11,500 megawatts (MW) of capacity. As at March 2009, 51 contribution agreements had been signed with proponents representing about \$900 million in federal funding over 10 years and 2700 MW of

Analysis of Program Activities by Strategic Outcome

renewable power capacity. Also as at March 2009, the ecoENERGY for Renewable Heat Program had received 720 funding applications from industrial, commercial and institutional sectors to install solar air and solar hot water systems and signed 466 contribution agreements with eligible recipients, representing about \$10 million in federal commitments. In addition, it signed contribution agreements with 11 partners (utilities, developers and buyers groups), representing about \$6.1 million in funding commitments, to run pilot projects that test ways to deploy solar hot water systems in the residential sector.

Energy S&T (met): Working with other federal, provincial, industry and academic partners, NRCan undertakes projects and activities in clean energy systems for buildings and communities; clean electric power generation; clean energy systems for industry; clean transportation energy; environmentally sustainable oil and gas development; and bioenergy. Given that a suite of eight new clean energy projects under the ecoENERGY Technology Initiative was announced late in the 2008-09 fiscal year, some contribution funds were transferred for delivery in fiscal year 2009-10.

A sample of notable projects during the reporting period includes the following:

- Providing the technical support for the development of a second national electrical interconnection standard Canadian Standards Association C22.3 No. 9 "Interconnection of distributed resources with electricity supply systems"; this standard is paving the way for the deployment of distributed electricity sources across Canada;
- Using NRCan expertise, the ISO 1611 standard – which is required for the safe

shipment of hydrogen stored in metal hydride assemblies – was published under a U.N. sub-committee that deals with the transportation of dangerous goods; prior to this standard, shipping hydrogen storage assemblies was very costly and time consuming;

- NRCan helped develop the world's first SolarWall® photovoltaic (PV) thermal hybrid system showcased at the Beijing Olympic Village; this is one of the first commercially viable hybrid solar systems producing both electricity and heat energy from the same surface area, and generating 200-300 percent more energy than a conventional PV system and maximizing GHG emission reduction; and
- NRCan was instrumental in the early stages of the Dockside Green Project – a planned harbour front community in Victoria, British Columbia – one of only nine projects in Canada to have received the Leadership in Energy and Environmental Design (LEED) platinum certification and which received the highest LEED platinum rating of any project in the world. It garnered many awards including the Environmental Top Ten Green Project for 2009 by the American Institute of Architects. The project reduced GHG emissions during construction, reduces water use by 65 percent and energy use by 55 percent (relative to the Canadian Model National Energy Code). NRCan is leading a similar integrated design process for net zero energy LEED Platinum buildings for NRCan's new laboratories at McMaster University in Hamilton, Ontario, designed for 70 percent energy savings and over 20 percent renewable energy supply.

Energy efficiency and alternative transportation fuels (met): Canadians spent about \$155 billion in 2006 (latest year for which data are available) on energy to heat and cool their homes and buildings and to operate their appliances, vehicles and industrial processes. This amount represents 14.1 percent of the country's GDP. Even though the delivery of some outputs (i.e., workshops) was somewhat less than anticipated due to the economic slowdown, overall, the suite of programs is on track to meet or even exceed expectations.

The goals of the ecoENERGY suite of energy efficiency promotion programs and regulatory improvements are to support continued progress in the energy efficiency of all sectors and to increase production and use of alternative transportation fuels in Canada. For example, during fiscal year 2008-09:

- ecoENERGY Retrofit provided grants to 94,000 homeowners and signed 279 contribution agreements with small and medium sized organizations;
- ecoENERGY for Buildings and Houses labelled more than 11,500 new homes and 257,000 existing houses and led technical support workshops for more than 1800 building and 4300 housing professionals;
- ecoENERGY for Industry increased energy efficiency in industrial facilities through information sharing, workshops, and site assessments;
- ecoENERGY for Fleets led 12 fuel management workshops, with 170 participating fleets, to promote greater uptake of transportation energy efficiency practices;
- ecoENERGY for Personal Vehicles delivered the Auto\$mart fuel efficient driving initiative, with its training materials used by over 440,000 new drivers;

- ecoENERGY for Biofuels received 46 applications and signed 22 contribution agreements representing a total commitment of \$938 million and a volume of 1.63 billion litres of biofuels; and
- ecoENERGY for Equipment drafted amendments to Canada's *Energy Efficiency Regulations* (published in December 2008) which prescribe seven new minimum energy performance standards and increase the stringency of existing standards for four products.

Additional performance information on these programs can be found in the [2007-08 Report to Parliament - Energy Efficiency](#) and Treasury Board Secretariat web site.

Benefits to Canadians

Energy production is a driving force of the Canadian economy, contributing 6.8 percent to Canada's GDP and supporting roughly 277,000 jobs. NRCan helped Canadians improve energy conservation and energy efficiency in every sector of the economy (e.g., homes, commercial buildings, vehicles), accelerate the development and market readiness of technology solutions to reduce environmental impacts associated with the production and use of energy; and increased the production of low-impact renewable energy. These technologies and programs also encouraged Canada's clean energy industries to access rapidly growing international markets for new technologies, thereby creating new jobs and economic growth while providing new technology choices for energy consumers to reduce energy use and operating costs.

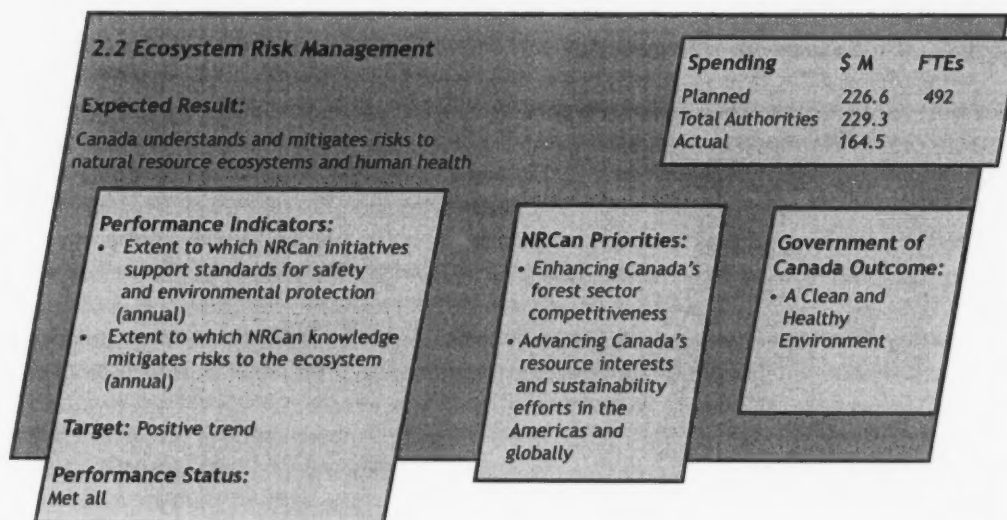
Analysis of Program Activities by Strategic Outcome

Lessons Learned and Corrective Actions

The performance of clean energy programs was closely monitored throughout the year and a new “dashboard” was developed to show the status of funding availability and interest in several programs (e.g., ecoENERGY-Biofuels, Renewable Power and Retrofits). This system of intense monitoring identified a potential funding shortfall early in program operations and the department developed a successful \$300 million proposal to expand the ecoENERGY

Retrofit-Homes program in Canada's Economic Action Plan. A new \$1 billion Clean Energy Fund was also funded through Canada's Economic Action Plan to provide greater support for clean energy research and technology development and deployment. These and other measures will help keep high-quality jobs in Canada, drive innovation, and strengthen Canada's resource competitiveness – better positioning the country for economic recovery.

Program Activity 2.2: Ecosystem Risk Management



Performance Analysis

Performance information shows that there is a positive trend in the use of NRCan information by other levels of government and stakeholders to make informed decisions. Over the past decade, there has been a significant increase in the number of projects undergoing environmental assessment – both major projects in the Major Projects Management Office and other projects – and despite the recent economic uncertainty, this growth in the number of projects is anticipated to continue to increase over the next decade. There was also an increase in the number of formal agreements with other government departments – particularly Parks Canada, Health Canada, Canadian Space Agency, and Environment Canada – and provinces and territories to advance shared objectives; the real cash value and the in-kind contribution of these agreements were valued at \$1,439,000 and \$785,000 respectively. In addition, NRCan knowledge was used to meet legislated and policy obligations related to, for example, the *Metals Mines Effluent Regulations*, the *Canadian Environmental Assessment Act*, the *Canadian Environmental Protection Act*, and the *Species at Risk Act*. Finally, evidence shows that there was a dramatic increase in Internet downloads when compared to the previous fiscal years, for example, a 60-percent increase for the Carbon Budget Model. This sophisticated technology was adopted by Russia and Mexico, which demonstrates Canada's international leadership and influence in this field.

In summary, the department met its expected result under this program activity.

Program Activity Analysis

Strong environmental performance in minerals and metals (met): NRCan provides expertise ensuring that sound scientific information formed the basis for government policies, decisions, regulations and other protection measures pertaining to the natural resource sectors. Departmental research as part of its new Green Mining Initiative focused on four main themes: footprint reduction; innovation in waste management; ecosystem risk management; and mine closure and rehabilitation. Work included the development of scientifically-based technologies and guidelines for the prediction, treatment, prevention and control of acidic drainage; elimination of contaminated water; and provision of scientific advice on initiatives to improve sustainable development performance and reporting. NRCan developed a five-year strategic and communication plan to transfer green mining S&T more widely.

Canada's forest ecosystems (met): NRCan provided the scientific knowledge of Canada's forest ecosystems that supports decision-makers' need to balance economic competitiveness with environmental integrity. In 2008-09, NRCan continued to produce authoritative reporting for decision-makers and to fulfill Canada's reporting obligations. For example, as Canada is the steward of 10 percent of the world's forests, international agreements on GHG emissions require Canada to enhance its understanding of the role and response of its forests to climate change. Agreements, such as the United Nations Framework Convention on Climate Change, also oblige Canada

Analysis of Program Activities by Strategic Outcome

to meet stringent international reporting requirements. NRCan also provided scientific expertise for the implementation of the *Species at Risk Act* by producing conservation guidelines for the Newfoundland Pine Marten to ensure adequate habitat for survival of the species while allowing sustainable forest management to continue. Similar work was done by NRCan scientists to support the recovery of woodland caribou in the boreal forest. The department also produced an authoritative and updated map of Canada's boreal forest to reduce uncertainties in describing the boreal zone and its forests.

Geosciences are used to understand environmental performance (met): NRCan provided expert advice to provincial and federal departments with respect to the implementation of legislation including the *Canadian Environmental Protection Act* and the *Canadian Environmental Assessment Act*; informed federal decisions to remove land from development (e.g., Nahanni National Park Reserve); and contributed the scientific knowledge necessary to mitigate geo-environmental impacts of economic development thereby facilitating environmental assessments and improving Canada's regulatory performance. Moreover, the department worked closely with several provinces to ensure the sustainability of Canada's groundwater.

The use of NRCan assessments and expertise is demonstrated by a record of accomplishments with other government departments. This includes the federal government's Water Availability Indicators, recommended by the National Roundtable of the Economy and the Environment, and the National Water Atlas. With respect to the

complex Paskapoo aquifer system in Alberta, Environment Canada stated that NRCan's work "...is certainly a strong contribution to hydrogeology in Canada and a fine example of applying geological science to improve understanding of groundwater."

Radioactive waste management (met): NRCan's radioactive waste management programs are designed to mitigate risk to the environment and human health. For example, NRCan worked with other levels of government on the remediation of the historic waste located in Tulita, Northwest Territories. Through the Nuclear Legacy Liabilities Program, risks and liabilities at AECL sites were reduced by continuing the decommissioning and dismantling of shutdown nuclear infrastructure at Chalk River Laboratories (CRL) in Ontario, and Whiteshell Laboratories in Manitoba, and the management and treatment of legacy waste. NRCan also continued planning for future decommissioning and waste management work by completing environmental assessments for projects such as the fuel packaging and storage facility at CRL to improve storage conditions for legacy reactor fuel waste, and the decommissioning of the Underground Research Laboratory in Manitoba.

Benefits to Canadians

Canadians are concerned about environmental changes, air pollution, water quality and water use issues and the ensuing adverse effects on human health and quality of life. To address these concerns, the department spearheaded initiatives to help Canadians better understand potential risks to ecosystems and identify methods

to reduce environmental impacts. Based on departmental expertise, critical resources, such as groundwater, are also better protected for all Canadians.

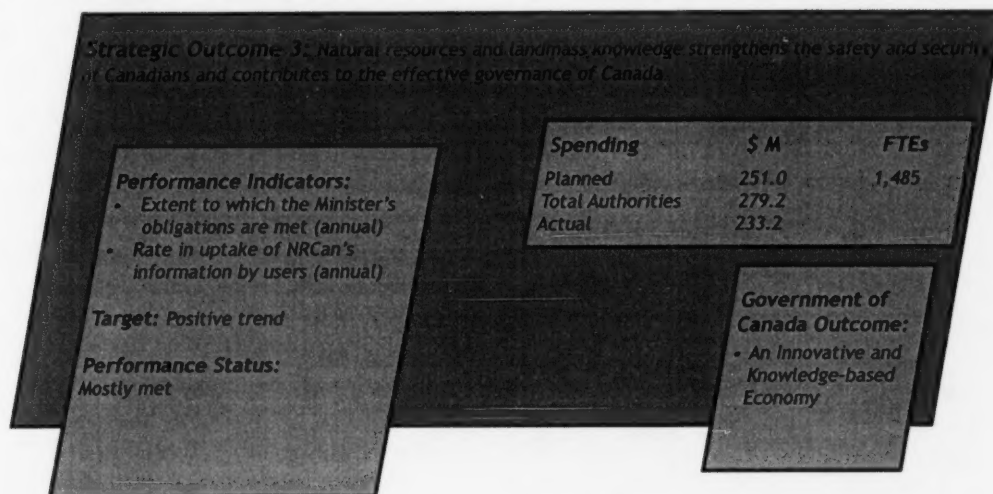
Lessons Learned and Corrective Actions

Experience acquired through 2008-09 has shown that providing certainty in regulatory timelines when combined with the increasing number of environmental assessments is straining expert capacity. NRCan is currently considering options to manage the risk associated with this situation. Moreover, the department intends to focus more on developing mitigation approaches to the environmental impacts of development plans, rather than simply identifying impacts. This redesign is based on the recognition that improving Canada's regulatory performance requires publicly

accessible information that documents how environmental impacts can be mitigated. With respect to groundwater geoscience, the focus will now be on the completion of the inventory and assessment of Canada's key aquifers; this, combined with a 10-percent increase in program resources, will reduce the projected completion date. NRCan is examining options to increase the pace of this research to ensure that Canadians have an adequate scientific knowledge base to make informed decisions to deal with the growing pressures on water resources. Regarding the recovery and handling of legacy waste, the decommissioning of shutdown infrastructure and the management of affected lands is being incorporated in the planning for future Nuclear Legacy Liabilities Program projects and activities to enhance the efficiency and effectiveness of the program.

Analysis of Program Activities by Strategic Outcome

Strategic Outcome 3



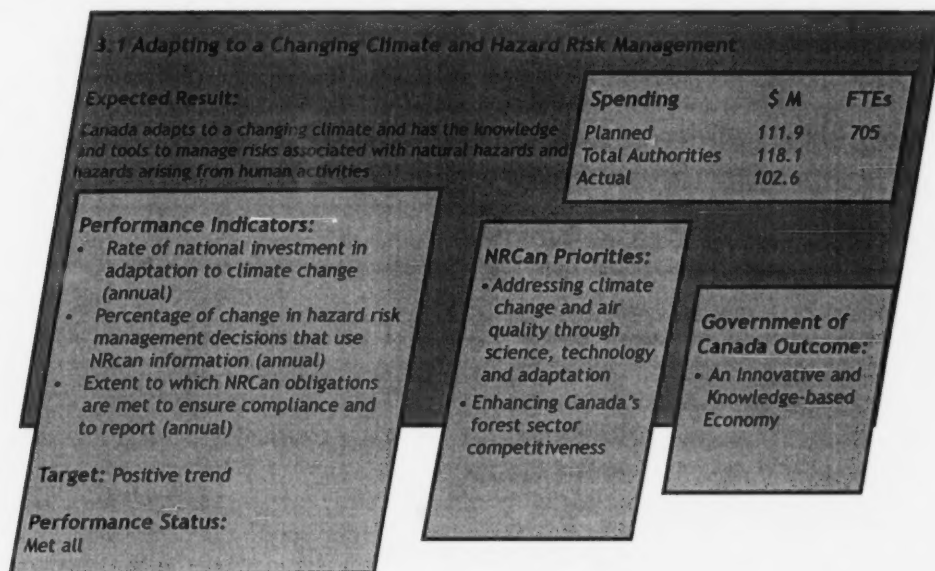
Performance Summary

Ensuring the safety and security of Canadians is a fundamental role of government. An important component of national safety and security is the ability to respond to climate change and manage hazard risks, which are growing challenges facing all countries. Through ongoing initiatives and collaborative work with national and international stakeholders, NRCan contributed to generating important geoscience knowledge on climate change

impacts and adaptation. In turn, this knowledge contributed to the effective governance of Canada and strengthened the safety and security for all Canadians.

In addition to geoscience knowledge, NRCan's leadership in forest sustainability and mining health and safety played a pivotal role in developing science-based options for mitigating and adapting to natural and man-made hazards and risks.

Program Activity 3.1: Adapting to a Changing Climate & Hazard Risk Management



Performance Analysis

Evidence shows that there has been a significant uptake of NRCan geoscience by federal, provincial and territorial leaders, community planners, transportation managers, hydro-electric utilities, farmers, agricultural planners, and protected area managers for information related to climate change impacts and adaptation. The milestone report, *From Impacts to Adaptation: Canada in a Changing Climate, 2007*, has been distributed to 5200 Canadians since its publication in March 2008, and is frequently downloaded from the internet. This important report is a

leading source of adaptation information in government, industry and institutional presentations. Numerous media contacts demonstrate not only the public interest in NRCan programs on natural hazards but also the usefulness of the information to the media and the general public and that NRCan is reaching target audiences.

In summary, the department met its expected result under this program activity.

Analysis of Program Activities by Strategic Outcome

Program Activity Analysis

Mining, infrastructure and explosives safety and security (met): NRCan continued to optimize the safety and security of workers and the public through the effective regulation of the manufacture, storage, sale and possession of explosives and fireworks through a licensing and inspection program, as per the *Explosives Act*. To that end, 2008-09 results include the coming into force of new explosive precursor regulations on essential components that could be used to make explosives; revisions to user fees to appropriately reflect the current costs of delivering the regulatory program; full implementation of the *Restricted Components Regulations* by continuing enrolment of vendors of all chemicals restricted under the regulations and undertaking compliance and enforcement activities; moving forward with the Explosives Security Partnership with industry partners to strengthen explosives security so that access is limited to legitimate users; and contributing to the 2010 Vancouver Olympics security through participation in various emergency planning activities. Performance information shows that explosives are being used more safely and by the appropriate people as evidenced by the number of accidents and the decline in thefts.

Through its *Pipeline Research Program*, the department conducted research to improve the integrity of new and existing pipeline infrastructure, and for emerging energy pipelines associated with new fuels. Other work included participating in all Canadian Standards Association (CSA) mining health and safety standards committee meetings and completing a review of new standards to ensure that Canadian mines operate with a high level of safety.

Forest disturbances (met): In collaboration with the Canadian Council of Forest Ministers, the department worked with provincial and territorial partners to help mitigate threats to public safety and infrastructure through the development of national strategies such as the National Forest Pest Strategy (NFPS) and the Canadian Wildland Fire Strategy. Under these strategies, federal, provincial and territorial partners have adopted national frameworks for risk analysis, which includes a comprehensive risk assessment and development of response options. Under the NFPS, a national survey was held for the first time and the results helped NRCan set S&T priorities related to approaches to dealing with national forest pest strategies. Agreements with provinces were put in place under the NFPS and the Mountain Pine Beetle Program (MPB) to fill key knowledge gaps and advance the goal of a national coordinated approach for pest management. NRCan scientists provided timely scientific advice to governments on the probability of MPB becoming established in the boreal forest. Expertise in fire was also provided to the international community, specifically in helping the Greek government with wildfire management competencies. Additionally, NRCan scientists forecasted increased fire risk to communities and resources based on NRCan-developed regional climate change models.

In addition, the department's climate change scientific research has made significant and internationally recognized progress towards reducing uncertainties and developing adaptation options concerning climate change impacts. For example, the department produced the science-based

report *The Importance of Forest Sector Adaptation to Climate Change (2008)* which calls for increased and sustained focus on adaptation.

Science and knowledge are used to help Canadians adapt to climate change (met): Canadians require knowledge on the effects of climate change in order to adapt. NRCan conducted studies that assess the sensitivity and response of Canada's landmass and coastal areas to a changing climate and incorporated this knowledge into planning and resource management. The department delivered outreach activities to help Canadians prepare for and adapt to a changing climate by supporting the integration of climate change considerations into decision-making. For example, the department collaborated with Engineers Canada to produce the *First Engineering Assessment Report on the Vulnerability of Infrastructure to Climate Change* (June 2008) and worked with the Canadian Institute of Planners in the development of mitigation strategies.

The risks of natural and man-made hazards are reduced (met): The department contributed to the reduction of associated risks by maintaining an "ever-green" directory of civil emergency plans and arrangements and conducting targeted readiness exercises. Moreover, NRCan completed business continuity plans for all departmental critical and moderate functions.

To address mandated responsibilities under the *Emergency Management Act*, the *Comprehensive Nuclear Test Ban Treaty Implementation Act*, and the Federal Nuclear Emergency Plan, NRCan provided geographic information to support the management of emergencies related

to earthquakes, floods, landslides and geomagnetic storms. For example, NRCan provided maps for emergency situations in Canada (e.g., New Brunswick flooding) and internationally (e.g., Afghanistan and Haiti). In addition, in partnership with the Canadian National Committee for Earthquake Engineering, the department increased the understanding of relevant geoscience for the engineering community to be included in the next version of the National Building Code of Canada.

Benefits to Canadians

How the Government of Canada responds to the changing climate and manages risks from natural and man-made hazards has a significant impact on the safety and security of its citizens. By developing a greater understanding of hazards, NRCan facilitated government response in times of crisis and informed the development of long-term mitigation strategies. Climate change research assisted Canadians in understanding the effects of a changing climate on their communities, infrastructure and way of life, thereby facilitating adaptation at various levels.

Lessons Learned and Corrective Actions

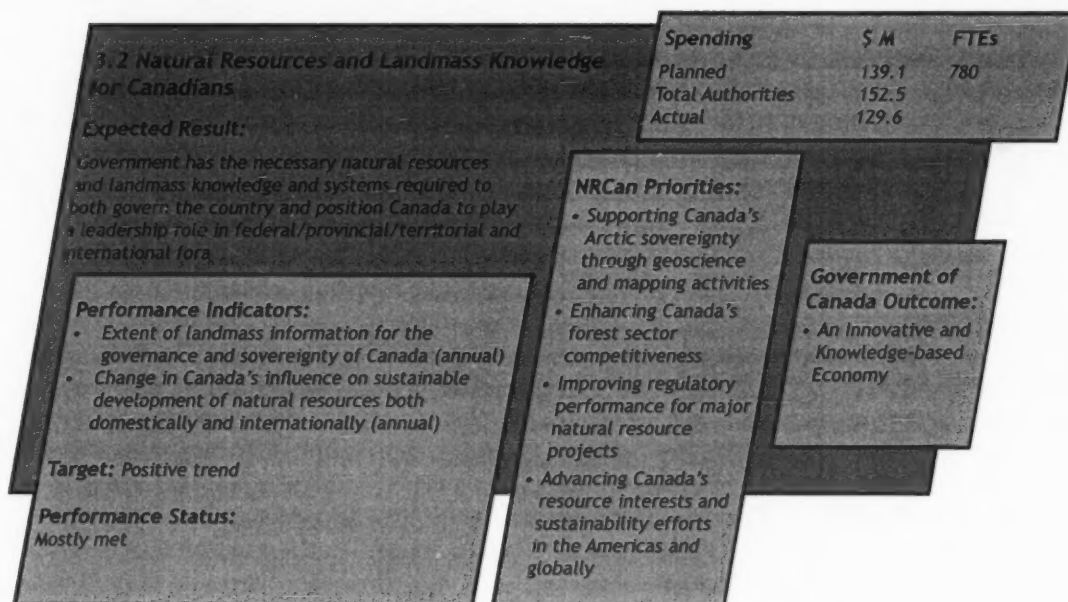
During the past year, it was found that different jurisdictions have varied capability to take in and use available funds for the Regional Adaptation Collaboratives. Corrective action for 2009-10 will focus on providing additional lead time for jurisdictions to carry out planned activities, as well as earlier validation of progress on work and budget requirements.

Analysis of Program Activities by Strategic Outcome

In addition, the department plans to place increased emphasis on providing a pan-Canadian best practices approach to natural hazard risk assessment and mitigation, concentrating efforts and investment where the greatest impact can be realized for risk reduction and ensuring that emerging needs are adequately addressed. Although

much progress has been made, further improvements to the government's federal regulatory system are required to increase Canada's ability to maximize resources while remaining a world leader in proactive and precautionary measures.

Program Activity 3.2: Natural Resources and Landmass Knowledge for Canadians



Performance Analysis

Performance information indicates that NRCan and other government departments are on track with the delivery of the UNCLOS program, that collaboration is well established and that the governance model is functioning effectively. There is

also evidence that the delivery of integrated geographic information, services and expertise in collaboration with partners is provided in a cost-effective manner. For example, the GeoConnections program provided support for provincial/territorial

projects in which the partner agency contributed more than the federal program, in some cases leveraging a 1:3 contribution. With respect to improving the federal regulatory system, the Major Projects Management Office (MPMO) successfully provided overarching management of federal regulatory requirements for 41 major natural resource projects representing over \$100 billion in potential new capital investment. The MPMO also put in place strong project management systems and governance mechanisms. With respect to statistical information, performance information shows that all statistical information compiled by NRCan met Statistics Canada quality standards which are viewed as an international best practice.

Evidence also shows that during the period 2005-07, R&D investments in the forest sector increased by 2 percent while the value of shipments (revenues) decreased by 14 percent. Thus, the ratio of R&D investment to revenues increased by 12 percent. This confirms that investments in innovative products, services and technology are assisting in maintaining the sustainability of forest firms and communities while meeting the requirements of an increasing environmental regulatory framework. Stronger Canadian leadership in sustainable management practices is demonstrated by the increasing number of member countries joining the International Model Forest Network for which NRCan is the secretariat; the number grew from 15 in 2006-07, to 19 in 2007-08, and 31 in 2008-09.

In summary, the department mostly met its expected result under this program activity.

Program Activity Analysis

Mineral and metals knowledge and information (met): NRCan is recognized for the excellence of its comprehensive minerals and mining statistics and information provided to other government departments, provinces and territories under the terms of various Memoranda of Understanding, and to Statistics Canada for use in the System of National Accounts. During the reporting period, discussions took place with stakeholders with a view to enhance the current statistical and knowledge collaboration with all stakeholders.

Forest sector innovation system (met): NRCan-led national discussions within the Canadian Council of Forest Ministers have resulted in the development of Canada's new forest strategy, *A Vision for Canada's Forests: 2008 and Beyond (2008)*, which focuses on climate change and forest sector transformation through innovation. Moreover, NRCan and partners continued to support the structuring of FPIInnovations and the development of NRCan's Canadian Wood Fibre Centre into a consolidated national institute including development of the *FPIInnovations Strategic Plan 2008-2010*. NRCan coordinated a strategic partnership with the Natural Sciences and Engineering Research Council (NSERC) and FPIInnovations that resulted in the launch of NSERC's Forest Sector R&D Initiative in 2008. The initiative represents a key achievement in increased investment in the forest sector innovation system and increased collaboration among academic researchers, FPIInnovations, industry and government

Analysis of Program Activities by Strategic Outcome

scientists and engineers to collectively and efficiently advance forest sector innovation priorities.

International influence (met): In 2008-09, NRCan continued to exercise international influence to promote Canada's reputation as an international leader in forest sector sustainability and its strong environmental performance in order to maintain international market access while advancing sustainable forest management standards globally. For example, NRCan played the lead role in expanding the international network of model forests to advance sustainable forest management on almost every continent with forests across the globe, including the implementation of a 3-year African Model Forest Initiative to assist in promoting sustainable forest management in the Congo Basin and Mediterranean regions of Africa. In addition, the Canadian and Argentinean Model Forest Networks continued their multi-year project to develop and apply local level indicators of sustainability in Argentina's model forests. Discussions to expand the project to model forests throughout Latin America are underway. NRCan also supported other federal departments and agencies by providing scientific forestry advice and expertise in support of international agreements related to the forest sector (e.g., Convention on Biological Diversity, Convention on International Trade in Endangered Species of Wild Fauna and Flora, and the United Nations Framework Convention on Climate Change).

Basic infrastructure to support the governing of Canada (met): The department is mandated to provide the essential legal survey framework for Canada Lands as defined in the *Canada Lands Survey Act* that

allows for the identification, documentation, registration and protection of the spatial extent over which land owners and land administrators can effectively transfer and manage their lands and responsibilities. During 2008-09, legal survey services provided by the department supported 51 agreements with other government departments across the country.

In addition, the department is mandated to acquire and analyse the scientific information to establish the outer limits of Canada's continental shelf and prepare a submission to a United Nations Commission before the deadline of 6 December 2013. This submission, if positively received, will allow Canada to gain international recognition of its sovereign rights over an area of more than 1.7 million square kilometres, beyond 200 nautical miles, for the exploration and exploitation of the natural resources on and below the seabed. During 2008-09, NRCan carried out several key seismic surveys to meet our 2013 submission to the United Nations Convention on the Law of the Sea (see Section I – Risk Analysis).

Finally NRCan provided base mapping to support Public Safety Canada and the Department of National Defence requirements such as geo-information on critical infrastructure, earth observation data and emergency mapping services for events such as the 2010 Olympics.

Federal regulatory process for major natural resource projects (mostly met): In its first full year of operations, the Major Projects Management Office (MPMO) made significant progress towards improving the performance of the federal regulatory system for major natural resources projects.

Key initiatives over the reporting period included:

- the development of new guidelines to improve process clarity, promote early engagement between project proponents and regulators, and ensure a coordinated federal approach throughout the entire review process;
- the establishment of service standards with target timelines for each major project review, reflected in interdepartmental project agreements provided to project proponents, and made available to the public;
- initial building blocks, including improved governance, have been put in place for a whole-of-government approach to Aboriginal consultations; and
- the performance of federal reviews for projects under the MPMO initiative is now being publicly tracked and monitored to ensure greater transparency and accountability.

Benefits to Canadians

Landmass knowledge contributes to the protection of property rights and to the orderly development and proper management of lands and resources. Information generated in the mining and forestry programs is frequently used in international fora. NRCan helped the Government of Canada maintain its international boundaries, as part of exercising its sovereign rights and ensuring peaceful occupation and stewardship of the lands. The department, through the

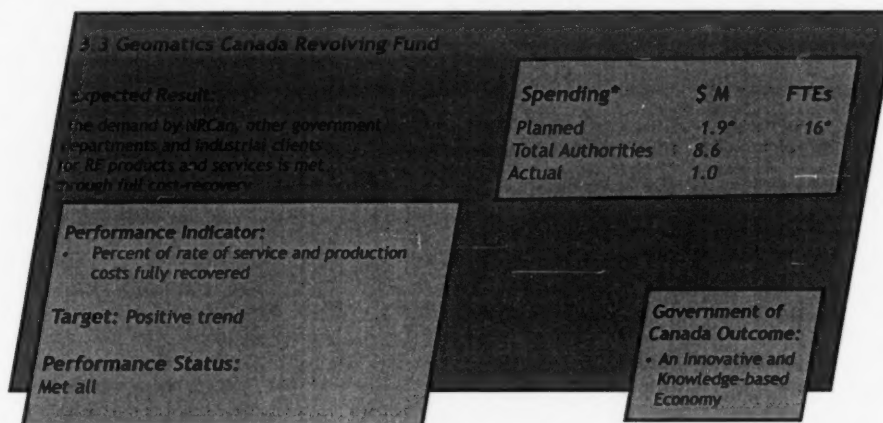
Major Projects Management Office, also worked to improve the performance of the regulatory system for major natural resources projects, increasing the transparency and predictability of the federal regulatory review process for Canadian resource industries and other interested stakeholders.

Lessons Learned and Corrective Actions

The economic downturn in 2008-09 resulted in fewer project proposals than anticipated entering into the regulatory system. To extend the reach of the MPMO initiative and to ensure a timely and predictable process for those projects that were proceeding, 16 additional projects that entered the regulatory system prior to the creation of the MPMO were brought under the management of the MPMO. Although important steps have been taken towards improving the management and performance of the federal regulatory system for major resource projects, the MPMO recognizes the need to implement longer-term solutions to further enhance the performance of the federal regulatory system, including examining opportunities to improve the federal legislative framework. With respect to UNCLOS, Canada has yet to establish a land management framework for its ocean space and plans to address this gap within the scope of its existing authority. Other plans for 2009-10 are to improve the web presence of the Canada Lands Surveys System as well as the Canadian space data ground segment.

Analysis of Program Activities by Strategic Outcome

Program Activity 3.3: Geomatics Canada Revolving Fund



* All costs for the Geomatics Canada Revolving Fund are fully recovered.

Performance Analysis

All costs for the Geomatics Canada Revolving Fund (GCRF) were fully recovered over the reporting period. In summary, the department met its expected result under this program activity.

Program Activity Analysis

Geomatics Canada was granted special revenue spending authority in the form of a Revolving Fund in 1994. The Revolving Fund provides flexibility to Geomatics Canada to meet volume level fluctuations and to conduct business effectively using non-tax revenue. The operating environment of the Fund promotes good business practices. In order to deal with business life cycles (start-up, operating life and closure), management has implemented strong controls over operating performance measures, effective pricing policies, a framework for project

approvals, quarterly reviews, risk analysis and risk management.

Benefits to Canadians

The GCRF allows Geomatics Canada to shift the costs from Canadians to specific users who benefit directly from the goods and services provided. This revenue retention mechanism gives Geomatics Canada the ability to recover full costs from Canadian customers and the freedom to charge market prices for international clients. It presents the opportunity to provide an increasing volume of products and services in response to the needs of Canadian clients, as well as supporting the Canadian geomatics industry through the knowledge and expertise necessary to be competitive in the international market.

Lessons Learned and Corrective Actions

Historically, the map line of business cost recovered until 2006-07. However, since 2007-08, the business has undergone major transformation due to significant internal and external pressures. As a result of internal business review, it was deemed that the business model be revitalized to take advantage of emerging technologies and the growth of capacity within the private sector. Therefore, the mapping business line moved from the traditional government warehoused

and printed map model to one of providing digital access to Canadian citizens. This access was complemented by a distributed plot-on-demand business model located across both public and private sectors which now allows Canadians and other map clients to have on-demand access to high quality map products. This transformation not only enabled Canadians to benefit from new map products, more access points for plotted products, and faster client response times; it also enabled the Canada Map Office to downsize and significantly reduce the cost of warehousing largely outdated maps.

Section III - Supplementary Information

List of Supplementary Information Tables

1. Sources of Respendable and Non-Respendable Revenue
2. User Fees / External Fees
3. Details of Transfer Payment Programs Exceeding \$5 Million/Year
4. Up-Front Multi-Year Funding
5. Horizontal Initiative – Improving the Performance of the Federal Regulatory System for Major Natural Resource Projects
6. Sustainable Development Strategy
7. Green Procurement
8. Response to Parliamentary Committees and External Audits
9. Internal Audits
10. Internal Evaluations

These tables can be found on the Treasury Board Secretariat's web site at www.tbs-sct.gc.ca/dpr-rmr/2008-09/index-eng.asp.

Financial Highlights

The financial highlights presented within this Departmental Performance Report are intended to serve as a general overview of NRCan's financial position and operations.

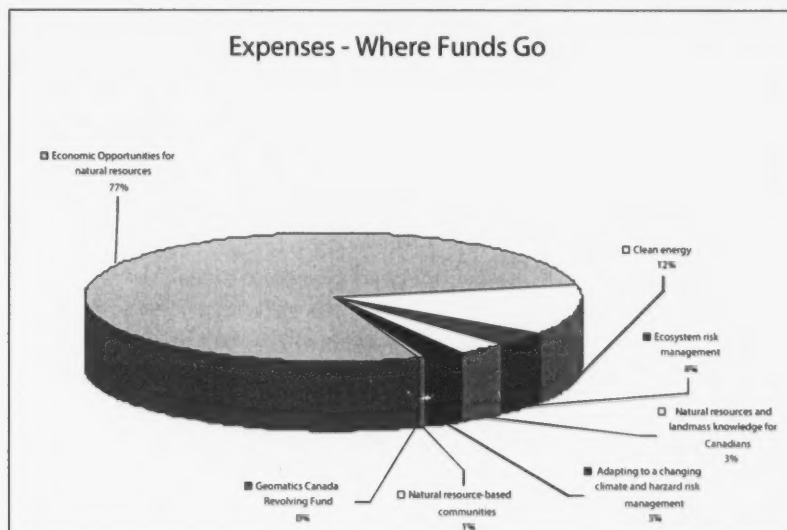
Condensed Statement of Financial Position - For the Period ending March 31, 2009

(in thousands of dollars)	Percentage Variance	2009	2008
Total Assets	-33%	457,996	678,700
Total Liabilities	-7%	1,196,800	1,287,702
Total Equity	21%	(738,804)	(609,002)

Condensed Statement of Operations - For the Period ending March 31, 2009

(in thousands of dollars)	Percentage Variance	2009	2008
Total Expenses	31%	4,631,731	3,534,778
Total Revenues	22%	2,720,043	2,235,836
Net Cost of Operations	42%	\$1,911,688	\$1,298,942

The following chart presents a distribution of the department's total expenses in 2008-09 by program activity. Total expenses amounted to \$4,631,731,000.



The complete NRCan statements and that of the Geomatics Canada Revolving Fund can be found at www.nrcan.gc.ca/com/resoress/pubpub-eng.php.